ANNUAL MANAGEMENT REPORT
-1984-
LOWER COOK INLET
REGION II

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

ANNUAL
FINFISH MANAGEMENT REPORT
-1984-
LOWER COOK INLET

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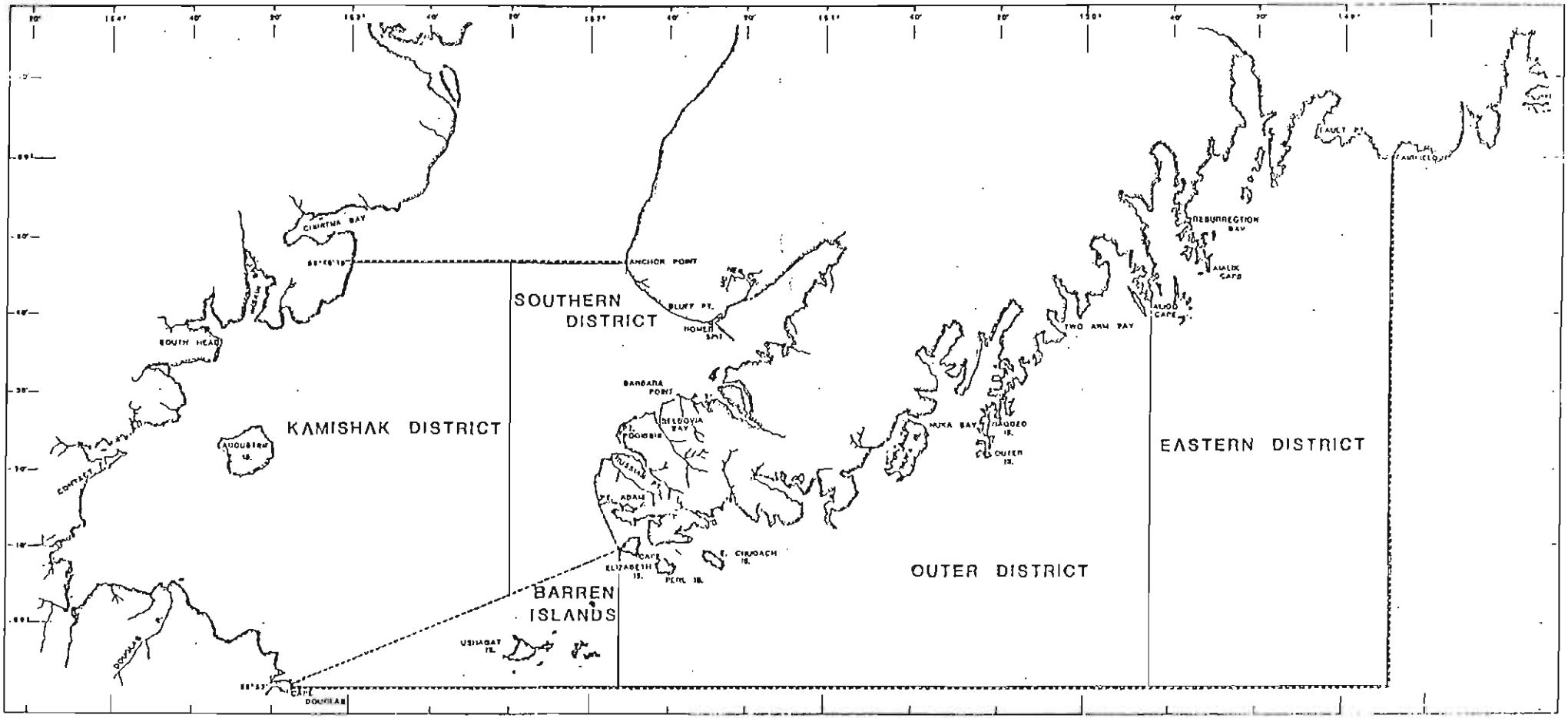

Figure 1. Lower Cook Inlet Management Area.

ANNUAL MANAGEMENT REPORT

LOWER COOK INLET

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INTRODUCTION

The Lower Cook Inlet management area is comprised of all waters west of the longitude of Cape Fairfield, north of the latitude of Cape Douglas and south of the latitude of Anchor Point and has been divided into five fishing districts (Figure 1). The 1984 area salmon harvest of 1,080,820 was 14 percent above average and was the third consecutive even year return that has been close to or over a 1.0 million fish harvest (Tables 1 and 17). The harvest was comprised of 713 king, 270,756 sockeye, 17,271 coho, 698,276 pink and 93,804 chum salmon (Table 1). Depressed prices for pink and chum salmon (appendix Table 3) were offset by the record sockeye harvest, which was over four times the average for the Lower Inlet.

The 1984 season was highlighted by another unusually strong sockeye return to China Poot Bay and sockeye returns to other systems were also extremely strong. The Tutka Hatchery even-year pink salmon return continued to produce at survival rates lower than odd-year cycle returns. Natural returns of pink and chum salmon to the Southern and Outer districts were generally weak as

expected. Pink salmon returns to the Eastern and Kamishak districts were strong and considerably above average. Harvests from these two districts provided over 39 percent of the Lower Cook Inlet pink salmon harvest, more than five times the average for the two districts (Table 1 and Appendix Table 12). Natural returns of pink salmon to the Southern and Outer districts were 45.7 percent below the pre-season forecast of 1,096,000 (Appendix Table 7). Spawning escapements of all species were considered fair to good with most sockeye escapements rated excellent (Tables 2-4 and 8-10).

The 1984 harvest was valued at $2,314,000 to fishermen and was 20 percent below average when compared to the past 10 years (Appendix Table 2). Fishing effort is very preliminary pending computer summaries of fish ticket data. However, indications are that 35 different set net permits fished the Lower Inlet in 1984 and peak aerial surveys accounted for only 39 vessels out of a total of 81 permits that fished during the season. Case pack and fresh frozen and cured production figures are presented in Appendix Tables 5 and 6 and continue to show a movement away from the fresh-frozen production of most species.

SOUTHERN DISTRICT

Sockeye Salmon

The China Poot Bay sockeye return was the backbone of the Southern district sockeye harvest for the second year in a row. The district harvest of 163,244 set a new record surpassing the previous record set in 1978 by over 22,000 fish (Tables 1 and 18). Seiners again harvested close to 70 percent of the sockeye which have historically been taken by set gillnets in the Southern district (Tables 16 and 18).

The China Poot Bay section of the Humpy Creek subdistrict was opened to seining on June 25 in anticipation of a healthy sockeye return to the Leisure Lake stocking project. Markers were removed at the HEA powerlines which allowed seiners to fish up to markers located at the mouth of the stream. The catch during the first week was almost four times the 1983 harvest level and it was obvious from the beginning that another very strong return was in the offing. Much of the seine effort shifted from Tutka Bay to China Poot and 18 vessels were observed in this area during the peak of the run.

The run peaked during the second and third weeks of July as in 1983 and seiners harvested approximately 104,400 sockeye salmon

in this area (Table 15). In addition, freshwater growth patterns of scales in AWL samples taken from catches of sockeye salmon in China Poot Bay and from set gillnetters in the Jakalof Bay to Seldovia Bay area, indicated very significant harvests of Leisure Lake bound sockeye occurred in fisheries in the Tutka Bay to Seldovia Bay area (Schroeder, 1985). Harvests of Leisure Lake sockeye by Tutka Bay seiners and set gillnets from Jakalof Bay to Seldovia Bay were estimated at 9,965 fish. Combined with the estimated dipnet harvest of 2,000 fish, the sport harvest of 500 fish and stream spawners of 500 fish, the return totalled 117,364 sockeye which represented a 37 percent survival from the outmigration of 315,000 smolt in 1982.

All of the sockeye salmon returns appeared to be 7-14 days ahead of normal run timing in Lower Cook Inlet in 1984. The English Bay Lake sockeye return fit this pattern as well. Escapement to the lake system was considered adequate, but continued to favor the upper two lakes (Table 4).

Pink Salmon

The Southern district pink salmon harvest of 336,785 was 11 percent above average for the district and represented a similar increase over the previous even-year harvest (Tables 1 and 18). However, the 1984 return continued to show very poor natural run production as the Tutka Hatchery return provided over 74 percent of the entire Southern district pink salmon harvest (Table 12).

The total seine harvest in the Tutka Bay subdistrict of 231,000 was similar to the previous three even-year returns. The Tutka Bay subdistrict was opened on June 25 which has been customary since hatchery returns began in the late 1970's. Catches were as expected during the first week of fishing, but when the second week's harvest went only 40,700 fish, it was obvious that the return was going to be a typical even-year return (Table 7).

Only two lagoon openings were required to harvest the run in 1984 and an adjustment in the management of the harvest and timing of the lagoon openings was made this year. Unusually high mortalities have occurred on adults being held for egg takes during the past several years and the length of time the fish have been held in pens in the lagoon appears to have been a major contributing factor. The first lagoon opening in 1984 occurred on July 6 to basically "clean out" the lagoon of early returning fish, which contain a high percentage of males. Brood stock for the hatchery was subsequently taken during the middle and latter portion of the run and required far less holding time in the pens. Holding mortality of pink salmon was the lowest on record.

Many salmon runs arrived 7-10 days ahead of normal run timing in Lower Cook Inlet in 1984 and this trend continued to manifest itself in the Humpy Creek pink salmon return. An aerial survey on July 10 indicated the Humpy Creek escapement had already reached 22,000 fish, almost a week before fish normally begin

arriving at this stream. The same survey indicated a good accumulation of fish inside the markers at Seldovia Bay and both subdistricts were opened on July 12 with fishing allowed up to the marker buoy at Humpy Creek.

The Seldovia Bay return stopped completely, shortly after the opening. Only 200 fish were caught in Seldovia bay during the opening and the escapement of 14,200 was considerably below desired levels (Tables 2 and 13) and the subdistrict was closed on July 21. The Humpy Creek return, however, continued strong. Little fishing effort shifted to this area due to the strong sockeye return to China Poot Bay. Shallow draft "jitneys" are used to fish both areas and fishermen chose to fish the higher priced sockeye.

The Humpy Creek escapement had reached 75,000 by July 23 and fishing time was increased to seven days per week on July 25. When the HEA markers in China Poot Bay were put back in effect on July 26 to protect arriving pink salmon, some effort shifted to Humpy Creek. However, the Humpy Creek return which usually continues into mid-August stopped abruptly and virtually all fishing effort ceased in early August. The harvest of 40,800 was similar to recent even-year harvests and the pink salmon escapement to Humpy Creek, which reached 84,200, was considerably above the upper end of the escapement range (Tables 2 and 13).

The Port Graham subdistrict was opened to seining on July 26

after aerial and ground surveys indicated over half of the escapement goal had been reached. Poor survey conditions prevented assessment of fish in the bay and when seiners harvested only 300 pinks, it was obvious that there was no strength to this return.

Miscellaneous Species

The chum salmon harvest of 9,598 was 27 percent below average for the district. Set gillnet catches were more than double the average for that gear type, but subdistrict breakdowns on the harvest are not available (Tables 1, 14, 16 and 18). The chum salmon escapement to Port Graham Creek, the only major return to the Southern district, was average, but below the escapement goal (Table 3).

The coho salmon harvest of 3,415 was only 6.5 percent below average for the district (Table 18). Set gillnets accounted for 87 percent of the harvest and the gillnet catch of 2,979 was 47 percent above average (Table 16).

OUTER DISTRICT

Sockeye Salmon

The Delight and Desire Lake sockeye salmon harvest of 28,411 was the third highest on record and was just slightly under the pre-season projected harvest of 30-35,000 (Tables 1, 15 and 19). Fish were already present off the mouth of Desire Lake when the first aerial survey was flown on June 12. No fish were present at Delight Lake, but on the June 18 survey, 900 sockeye had already moved into the stream lagoon at Delight and 3,200 had already reached the lake at Desire. An opening by flare was announced for June 20.

Catches were low during the first period after the opening and with the Tutka and China Poot openings on June 25, most effort left the area. Effort remaining in Nuka Bay quickly shifted to the Delight Lake area and by July 2 the Desire Lake escapement had reached 7-8,000 fish. The markers were removed at Desire Lake on July 2 to facilitate harvest of this run. Surveys of Delight Lake and lagoon on July 5 indicated over 7,000 sockeye had passed through the fishery and the markers were removed at 1:30 p.m. July 5, which opened McCarty Lagoon to seining.

Three to five vessels fished this area consistently throughout

the season. Water levels in the stream at Delight prevented fish from reaching the lake for about 10 days in late July. The fleet's ability to stop the movement of sockeye into Delight Lake and the arrival of pink salmon at Desire Lake necessitated markers at both Delight and Desire being put back in effect at 6:00 a.m. July 23. Escapements of 15,000 and 10,500 to Desire and Delight Lakes, respectively, were above average and were considered excellent (Tables 4 and 10).

Pink Salmon

Outer district pink salmon spawning streams have experienced severe flooding since 1980 and have resulted in low fry levels in most streams (Table 11). Many streams still have not recovered from the harsh winters in the early 1970's. Port Dick Creek and Island Creek continue to be the only major streams producing harvestable numbers of fish during even numbered years. Occasional fair returns have occurred to Desire Lake Creek and Windy Bay streams on even years, but little harvest has occurred (Table 13).

The Port Dick subdistrict was the only subdistrict in the Outer district to specifically be opened to harvest pink salmon in 1984. Port Dick Creek continues to be primarily an intertidal spawning return during even-years and, as a result, the fishery usually is not opened until late July. Very few pink salmon were observed in the bay until July 9 and the numbers of fish

gradually increased from 5,000 to 28,000 on July 25 with an additional 7,500 in the stream at that time. The subdistrict was opened on July 26, but fishing effort remained minimal due to low catches. Island Creek pinks did not begin arriving in any numbers until mid August, but most of the fishing fleet had quit fishing for the season by that time and little harvest occurred on the Island Creek pink salmon return.

The Port Dick pink salmon harvest of 69,600 was similar to recent even-year harvests since 1978 and odd-year harvests prior to 1977 (Tables 12 and 13). Escapements to these two streams were considered excessive due to the limited intertidal spawning area on both streams and the large chum salmon spawning run at Island Creek (Tables 2 and 8).

Two marker adjustments were made at Desire Lake Creek during the season to protect or to harvest the pink return. Harvest data presented in Table 13 do not indicate much of a harvest for this return, but final computer summaries will probably indicate a harvest similar to the three previous even-year returns for the Nuka Bay area. The spawning escapement of 22,000 pink salmon was considered excellent. Pink salmon harvested in the Dogfish Bay subdistrict were taken indidentally to the chum salmon openings. The Outer district pink salmon harvest of 89,068 was only 22 percent of the average harvest for this district, but was similar to the average harvest for the previous three even-year returns of 97,200 (Table 19).

Chum Salmon

The Outer district chum salmon harvest of only 3,077 was an extreme disappointment (Table 1). The harvest was only four percent of the average harvest for this district and was completely unexplainable in light of the excellent escapements achieved in 1979 and 1980 and the good fry levels in Island Creek resulting from the same spawning years mentioned above (Table 9 and Appendix Table 16).

Chum salmon began arriving at Dogfish Bay in late June, but the run slowed up and the accumulation of fish in the lagoon did not reach adequate levels to warrant an opening until July 16. Little increase occurred after the opening and with a catch of only 800 chum salmon, the subdistrict was closed on July 21 to assure an adequate spawning escapement. Numbers of fish in the lagoon increased an additional 3,000 during the closure and the subdistrict was reopened on July 26. Little effort occurred and the final harvest was only 2,600 chum salmon (Table 14). The escapement of 8,600 is based on an average stream life factor and this appears to have artifically lowered the chum salmon escapements to Dogfish Lagoon streams in recent years (Tables 3 and 9). Low water levels in spawning streams have prevented fish from readily moving out of the lagoon and into the creeks in the past three years and aerial surveys have consistently indicated more fish present in the lagoon than have the calculated

escapements using average stream life data.

Waters of Port Dick Bay southeast of the Middle Creek to Shelter Cove line were opened to seining on July 12 after aerial surveys of the Island Creek area indicated 7,700 chum salmon schooled inside closed waters near the creek. Little effort shifted to Port Dick due to the strong sockeye returns in many subdistricts. No harvest occurred at all during this opening and when an aerial survey on July 16 indicated a reduction in fish schooled off the creek mouth, a closure of the subdistrict was announced for July 21.

Fish returned to the Island Creek area after apparently being scattered by on- shore winds, and the subdistrict was reopened on July 26 with the minimum escapement goal of 10,000 chum salmon inside closed waters. Aerial surveys never indicated more than 15,000 chum salmon in this area, yet, the final chum salmon escapement was estimated at 25,600, considerably in excess of the 10,000 - 15,000 fish escapement goal (Table 3). The final chum salmon harvest in Port Dick was only 1,000 fish, far below normal for this area (Table 14).

The chum salmon returns to Petrof Glacier and Rocky River never materialized and only minimal escapements were achieved (Table 3).

KAMISHAK DISTRICT

Sockeye Salmon

The 1984 sockeye salmon harvest of 24,642 was a new record surpassing the 1982 harvest by 37 percent (Table 1 and 20). The large harvest was a result of a lake rehabilitation project at Chenik Lake which presents considerable promise for increased sockeye harvests in the future.

The first aerial survey of Mikfik Creek was conducted on June 4. Sockeye salmon were already present with 5,000 fish schooled in the upper intertidal part of the stream and another 500 already in the lake. An announcement was made opening the Kamishak-Douglas, McNeil and Bruin Bay subdistricts June 5 to seining seven days per week. The fish were restricted from moving into the lake by a large beaver dam just below the lake. The dam was removed on June 5 and in less than 12 hours the entire 5,000 sockeye schooled in the intertidal lagoon area had reached the lake. McNeil Lagoon was opened to seining at 10:00 a.m. June 6 to facilitate harvesting the remaining sockeye. Approximately 6,800 sockeye were harvested from the Mikfik run and the escapement of 6,000 was considered good (Tables 4 and 10).

Good numbers of sockeye had already arrived at Chenik Creek by June 18. By June 26, over 25,000 sockeye were schooled off the mouth and it was obvious that a strong return was in progress. The fish had trouble negotiating the falls located at the tideline and with a desired escapement goal of 10-20,000 fish, an opening was announced for July 2. A short 15 minute opening was allowed by flare and six boats cooperated to harvest over 16,600 sockeye. This represented the second year in a row where some harvest was allowed at Chenik Creek. No harvest had occurred at Chenik from the late 1940's or early 1950's until 1983 and 1984 marked the first significant harvest since the 1930's.

The escapement of 13,000 sockeye was the highest in the past 25 years (Tables 4 and 10). Many fish died trying to negotiate the falls and velocity barrier and 300-400 dead fish were observed during numerous surveys. Based on estimates of fish in the lagoon and escapement in the lake, it is possible that over 4,000 sockeye died trying to reach the lake.

Pink Salmon

The 1984 Kamishak district pink salmon harvest of 137,133 was the second highest on record and over four times the average for the district (Table 1 and 20). Bruin Bay River and Sunday Creek located in the Rocky Cove subdistrict, produced virtually the entire harvest (Table 13).

Pink salmon began moving into Bruin Bay around June 20. Most of the fishing fleet was still concentrating on McNeil and Kamishak River chums, so the "pothole" was opened to fishing seven days per week on July 20 to encourage early effort on this return, which is often difficult to harvest. Although no 17.0 ft. tides, which are needed to fish the "pothole", occurred for several days, this opening allowed several boats to "cork-off" the channel of the river at the normal fishing marker location.

Three boats caught over 60,000 pinks from July 20-27 and slowed the run very well. A July 25 survey indicated only 13,000 pink salmon in the river with an additional 17,000 in the pothole. Since the escapement was short of the 50,000 fish goal, the pothole was closed at 6:00 a.m. July 26 before the first 17 foot tides would have allowed the area to be fished. In two days, the total escapement had increased to 52,000, but 22,000 of those fish were still holding in the pothole. Poor weather prevented additional surveys until August 3. Seine harvest during this period dropped to just 16,000, even with the addition of three vessels, and it did not appear critical to open the pothole to harvest fish at this time.

However, rivalries between several vessels and the inexperience in fishing this area of two vessels that had arrived, hindered the operation of the three experienced fishermen and allowed large numbers of pink salmon to move through the fleet. The August 3 aerial survey accounted for over 100,000 pinks in Bruin

Bay River and another 28,000 in the pothole. The pothole was opened immediately at 4:30 p.m. August 3 and 22,000 pinks were harvested.

An additional 25,000 pinks were harvested during the last week of fishing and the total harvest of 123,300 was just under the 1968 record harvest for Bruin Bay (Table 13). The final pink salmon escapement reached 110,000 fish and was more than double the upper level of the goal (Table 2).

Sunday Creek, located in the Rocky Cove subdistrict, produced an excellent pink salmon return in 1984. Fish began arriving at the same time as Bruin Bay fish, but due to their extreme vulnerability to harvest at this location, the first opening was delayed until a portion of the fish had moved into the creek. A two hour flare opening was allowed on July 23. Fishing was only allowed south of the creek mouth as the 8,000 fish had split conveniently north and south of the creek.

Fishermen harvested 5,500 pinks during the opening, but within 4 days more than 20,000 fish were schooled off the mouth again. Fish began moving into the stream very well and the subdistrict was reopened on August 4, over the normal weekend closure, and the markers were removed. Over 12,000 pink salmon were caught during the last 10 days of this run and the total harvest of 17,600 was considered excellent. The spawning escapement of 12,000 pink salmon was just above the escapement goal (Table 2).

The Brown's Peak Creek located in Ursus Cove had a fair return of pink salmon this year, but no harvest occurred even when the subdistrict was opened on August 4 along with Rocky Cove. The escapement of 6,800 was adequate, but not exceptional (Table 2).

Chum Salmon

The Kamishak district chum salmon returns were expected to be weak in 1984 due to low escapement levels in many systems in 1979 and 1980 and the recent trend towards returns of five year old chum salmon. The 1984 harvest of 70,595 was almost double the average harvest for this district (Tables 1 and 20). Most spawning systems are continuing to produce as expected except for the Ursus Cove and Cottonwood Bay subdistricts. Returns to these areas have been far below expected levels in recent years, considering escapement levels achieved in the mid to late 1970's, when streams north and south of these areas have been experiencing good returns. It is possible that returns to these subdistricts are being harvested in other fisheries for some unknown reason : i.e. the Upper Cook Inlet drift gillnet fishery.

Large six year old chum salmon averaging over 13 pounds began arriving in McNeil Lagoon along with the tail-end of the Mikfik Lake sockeye in mid June. The lagoon was closed on June 19 to protect the chum salmon escapement as the return was not expected to be as strong as the previous two years. The low expected

return to McNeil was based on the low 1979 and 1980 escapements and the recent trend towards returns of primarily five year old chums (Table 9).

Six vessels remained to fish McNeil after the Mikfik sockeye run was over and were nearly able to stop the movement of fish into the river. The catch reached 11,500 chums during the first week of July and with surveys indicating an escapement of only 9,300, the subdistrict was closed at 12:00 noon Tuesday July 10. Chums continued to move into the area throughout July and the final escapement of 21,000 was considered good. AWL sampling indicated that the 1978 escapement provided the backbone of the run for the third year in a row with over 42 percent of the harvest being six year old chum salmon (Schroeder, 1985).

The chum returns to the Kamishak and Douglas Rivers were also weak as expected. The 1984 harvest of 23,600 from these systems is good when compared to the average for the Kamishak district or when compared to harvests from these two systems prior to 1981 (Tables 14 and 20). The Kamishak River system was believed to have contributed the majority of the harvest. Very little escapement occurred to Silver Beach or Main Left streams in the Douglas River area (Table 2), even though the majority of the harvest occurred there. Good weather which was evident in July, often allows Kamishak River bound chum salmon to migrate along the Douglas River beach area and be intercepted early. The Kamishak River systems did not achieve their spawning

escapements, but very poor water conditions prevented accurate spawning escapement estimates throughout most of July.

The Bruin River chum return was considered good and the harvest of 10,900 fish, taken incidentally during the primary pink salmon fishery, was the second highest on record for this subdistrict (Table 14). The escapement of 8,000 chum salmon was considered good (Table 3).

Cottonwood Bay and Iniskin Bay chum returns began arriving in good numbers 7-10 days ahead of normal run timing. Iniskin Bay was opened for 48 hours from July 23-25 and a two hour opening was allowed in Cottonwood Bay from 8:00 until 10:00 a.m. July 23. The opening was scheduled during the latter stages of the flood tide, which kept the majority of the visible fish inside waters closed to fishing. Wind conditions prevented early fishing in Cottonwood Bay and the opening was extended two hours until 12:00 noon. Only 700 chums were harvested in Cottonwood Bay during this opening, but Iniskin Bay catches were strong.

By July 25, over 2,900 chum salmon were already in the stream at Iniskin Bay. With the return considerably ahead of normal and a harvest of 14,000 fish during the first 48 hour period, fishing in the subdistrict was extended an additional 48 hours from July 26-28. Escapements progressed well and a second and third extention were allowed from July 30-August 1 and August 4-6. The final harvest of 20,200 chum salmon (Table 14) was considered

good for this area and the escapement goal was achieved at Iniskin River (Table 3). The Cottonwood Creek escapement fell below the goal, but was still adequate for this small stream.

Ursus Cove was opened for 48 hours from August 4-6, but no fishing effort occurred and the harvest of 3,900 chum salmon listed for the Rocky and Ursus Cove area (Table 14) were taken at Sunday Creek during the pink salmon openings. Escapements to Ursus Cove streams were considered good (Table 3).

Coho Salmon

The major coho salmon producing area in the Kamishak district is the Kamishak-Douglas subdistrict. The size of coho salmon returns to this area was unknown until the large harvest in 1982. Catches in 1984 began during the first week of August and continued through August 22 when a strong gale-force storm abruptly ended the fishing season. The coho harvest of 13,230 was the second highest on record for the district and is reflective of the increased interest in this resource during the past three years (Table 20). The increased interest is due in part to low returns of other species and prices paid for them, while coho salmon prices have remained relatively high and stable (Appendix Table 3). Only one aerial survey was conducted to assess coho escapement. Fish had just begun moving into the rivers and reports from sport fishermen in the area in September indicated that coho abundance was excellent.

EASTERN DISTRICT

Sockeye Salmon

The Eastern district had some very enjoyable surprises for fishermen in 1984. The first large sockeye smolt outmigration from Bear Lake occurred in 1982 and a return of 4,000-8,000 fish was expected this year. Sockeye escapement had been previously limited to a minimum of 500 fish of either sex in order to maximize coho salmon production from the lake for the recreational fishery in Resurrection Bay. Last minute adjustments lowered the allowable escapement to only 250 sockeye of each sex which left a considerable surplus of fish that would not be needed for spawning purposes.

Therefore, Resurrection Bay north of Tonsina Creek was opened to seining seven days per week from May 24 until June 30. Five boats participated during the fishery, but three boats caught the majority of the fish. The closed water area at the head of the bay was removed to facilitate harvest of the return and seiners were able to harvest 3,360 sockeye or approximately 50 percent of the return. Fishermen found that they could only fish for 3-4 hours around each high tide and when day breezes came up around 10:00 a.m. to noon, fishing was nearly impossible. Seiners voluntarily released large king salmon and refrained from fishing

most weekends to reduce potential conflicts with sport fishermen. The Bear Lake sockeye escapement was 520 fish (Table 4) and approximately 2,900 additional fish were killed at the weir and donated to charitable organizations.

The second surprise came from the unusually large sockeye return to Aialik Lake which is only an 86 acre "pond". The first aerial survey of the semi-glacial lagoon below Aialik Lake on June 18 accounted for 4,500 sockeye with definite indications of larger numbers present. Large numbers of "jumpers" and dark, brown colorations in the lagoon water indicated the possibility of additional schools of salmon present. The Aialik Bay subdistrict was opened on June 20 and the lagoon was opened by flare to seining for 30 minutes from 6:00 until 6:30 a.m. June 20. This was more than 2 weeks earlier than this volume of fish had ever been observed in prior years and the short lagoon opening harvested 6,400 sockeye.

Seine harvests continued strong through the last week of June with an additional 5,600 sockeye harvested by 7-8 boats. A June 26 survey of the lake indicated over 2,200 fish had already reached the lake. A July 2 survey indicated another good buildup in the lagoon and a 10 minute lagoon opening by flare was announced for 5:15-5:25 p.m. July 2. Fishermen harvested another 5,000 sockeye during this opening. The escapement to the lake had reached 4,100 by July 5 with another 3,200 fish schooled in the lagoon. Aialik Lagoon was opened at 6:00 p.m. July 5 until

further notice and the harvest during the first week of July was 21,000 sockeye. Harvests slowed during the following two weeks and with glacial water in the lake preventing escapement estimates and the total harvest at 48,000 sockeye, the lagoon was closed on July 18.

Pink salmon were being harvested in fair numbers from July 12-18 and the closure allowed pinks to move into the stream below the lake. Fishing effort shifted to Seward after the lagoon closure and with the pink salmon opening scheduled for Resurrection Bay on July 23. Surveys of Aialik Lake on July 19 indicated that the sockeye escapement had reached 11,000 and the lagoon was reopened at 6:00 a.m. Monday July 23. The final harvest of 50,400 was a new record surpassing the previous record set in 1983 (Table 15). The sockeye salmon escapement was considered very excessive at 22,000 and was the third year in a row of large escapement levels (Tables 4 and 10).

The Eastern district sockeye harvest of 54,459 was considered excellent and is only surpassed by harvests from the Bear Lake rehabilitation production years of 1968 and 1969 (Tables 1 and 21). It is unknown what is causing the tremendous sockeye production in Aialik Lake during the past three years, but greater ocean survival rates and mild winter weather are probably the main contributing factors. It is also possible that the large spawning escapements allowed since 1975 are starting to have a natural fertilization affect causing increased food

production in the lake (Table 10).

Pink and Chum Salmon

Pink salmon pre-emergent fry levels in streams in the Resurrection Bay area were excellent from the 1982 spawning escapements and the adult return in 1984 was expected to be good. An actual forecast was calculated for this area for the first time in 1984 based on alevin data contained in Appendix Table 15 and produced a forecasted return of 143,400. Desired escapement levels of 40,900 allowed for an expected harvest of 103,000 pink salmon.

The first aerial survey of Resurrection Bay was flown on July 12 and indicated fair numbers of pink salmon already present in Humpy and Thumb Coves. By July 19, these numbers had increased substantially and additonal scattered schools were observed throughout the bay and fish had begun entering the streams. The first opening for. Resurrection Bay was announced for 24 hours from July 23-24.

The first opening produced a harvest of 34,000 pink and 1,700 chum salmon by 8-9 vessels. Ground surveys on July 23 indicated over 9,000 pink salmon already on the spawning grounds in various streams. By July 27, the escapement levels had doubled and large schools of pinks were present in Thumb Cove and near Tonsina Creek. The second 24 hour opening on July 30-31 restricted

fishing to north of Caines Head and also opened Humpy Cove. Markers were adjusted at Thumb Cove for one hour from 9:00 until 10:00 a.m. July 30 and the harvest by 11 boats reached 51,600 pinks and 1,100 chums. The third opening for 24 hours north of Caines Head occurred on August 6-7 and the same 11 boats harvested an additional 30,700 pink salmon.

The total Resurrection Bay pink salmon harvest of 118,500 was 15 percent above the pre-season forecasted harvest and was the third even year return in a row of excellent returns and harvest (Table 13). Escapements to all streams except Mayor Creek were achieved (Table 2) and the total return reached 159,000, 10.9 percent above the forecasted return.

Chum salmon returns to Tonsina Creek and streams in Day Harbor and Aialik Bay were good. Day Harbor was opened to seining with stream markers removed from July 16-21 and 700 chum salmon were harvested. Approximately 3,100 chum salmon were harvested in Resurrection Bay, primarily from Tonsina Creek (Table 14). The Tonsina Creek chum escapement reached 5,100 and was considered excellent.

The majority of the Eastern district chum salmon harvest of 10,534 came from Aialik Bay. The district harvest was the second highest on record and the fourth year of above average chum harvests. Aialik Bay also produced a harvest of 12,000 pink salmon. The harvest came from Aialik Lake Creek and Quicksand

Cove and the escapement to Aialik Lake Creek was estimated at 4,000 pink salmon. The Eastern district pink salmon harvest of 135,290 was the third highest on record and over five times the average for this district (Tables 1 and 21).

SUBSISTENCE FISHERY

Kachemak Bay

The Kachemak Bay subsistence set gillnet fishery which targets on coho salmon was open for one month in 1984 from August 16 until September 15. A total of 369 permits were issued this year, similar to the three previous years (Tables 22 and 23). The number of permits issued to Anchorage area residents remained low for the third consecutive year and local residents of the Kachemak Bay and Anchor Point area comprised 92.1 percent of the permittees (Table 22).

The total harvest of 4,628 fish consisted of 80 percent coho salmon with pink salmon comprising 18 percent (Table 23). The harvest was 47 percent above average and coho escapement in the Fox River drainage was felt to be adequate.

English Bay-Port Graham

The subsistence fisheries in the villages of Port Graham and English Bay were quiet and uneventful in 1984. Salmon harvests by both villages appeared to be adequate and similar to or slightly higher than recent years.

Data presented in Tables 24 and 25 differ slightly from the 1983 annual management report and have been adjusted downward. Recreational harvests and fish taken from commercial fishery catches have been subtracted from past figures that represented the total salmon use by village residents. Data now represent only set gillnet catches of salmon during the two seasons of May 10-June 15 and August 16-September 30.

ENHANCEMENT AND REHABILITATION

Tutka Hatchery

The Tutka Hatchery released 19.6 million pink salmon fry and 140,000 chum salmon fry directly into Tutka Bay in 1984. The short-term-rearing of over 11 million fry was curtailed 14 days into the program after it was noticed that the fry had lost weight and were refusing to eat the Alaska Dry Pellet food.

The 1984 adult pink salmon return to the Tutka Hatchery was estimated at 285,526 and contributed over 241,000 fish to the Southern district harvest. Survivals of different release groups were similar to past even-year returns with survival rates of 2.2 and 1.5 percent for reared and direct released fish respectively. The 1984 egg take set a new record with 29.5 million pink and 27,300 chum eggs being seeded into hatchery incubators.

Leisure Lake

The 1984 sockeye salmon return to the Leisure Lake stocking project was 117,364. Seiners and set gillnetters harvested over 114,000 sockeye and dipnetters and sportfishermen harvested an additional 2,000 and 500 sockeye respectively. Commercial catch sampling indicated that 92 percent of the fish were four year old

fish and 5 percent were five year old, two ocean fish.

Fry stocking levels were kept at 2.1 million in 1984, as the project has now entered the lake fertilization phase and consistent fry levels in the lake were desireable. The smolt outmigration totalled only 229,200 in 1984, which is a considerable reduction from past years. The smolt were comprised of 177,700 age I fish which averaged 53.9 mm and 1.1 grams and 51,500 age II fish that averaged 76.4 mm and 4.4 grams.

Caribou and Seldovia Lake Coho Stocking

Approximately 120,000 coho salmon fingerling were stocked in Caribou Lake in 1984. Smolt are expected to leave the lake over the next two summers and should provide increased subsistence and recreational coho catches in Kachemak Bay in 1986 and 1987. Another 60,000 coho fingerling were released in Seldovia Lake and should enter commercial set gillnet catches, as well as subsistence and recreational catches, during the same years.

Tonsina Creek Chum Egg Take

Space has become available in the Trail Lakes Hatchery to handle chum salmon eggs for release in the Seward area to enhance the commercial fishery. Tonsina Creek is the only large chum salmon return in Resurrection Bay and 500,000 eggs were taken from adult returns to this stream in 1984. Plans call for release of the

fry in Spring Creek in 1985 and eventually increasing the egg take to 10 million chum salmon eggs as brood stock become available at Spring Creek.

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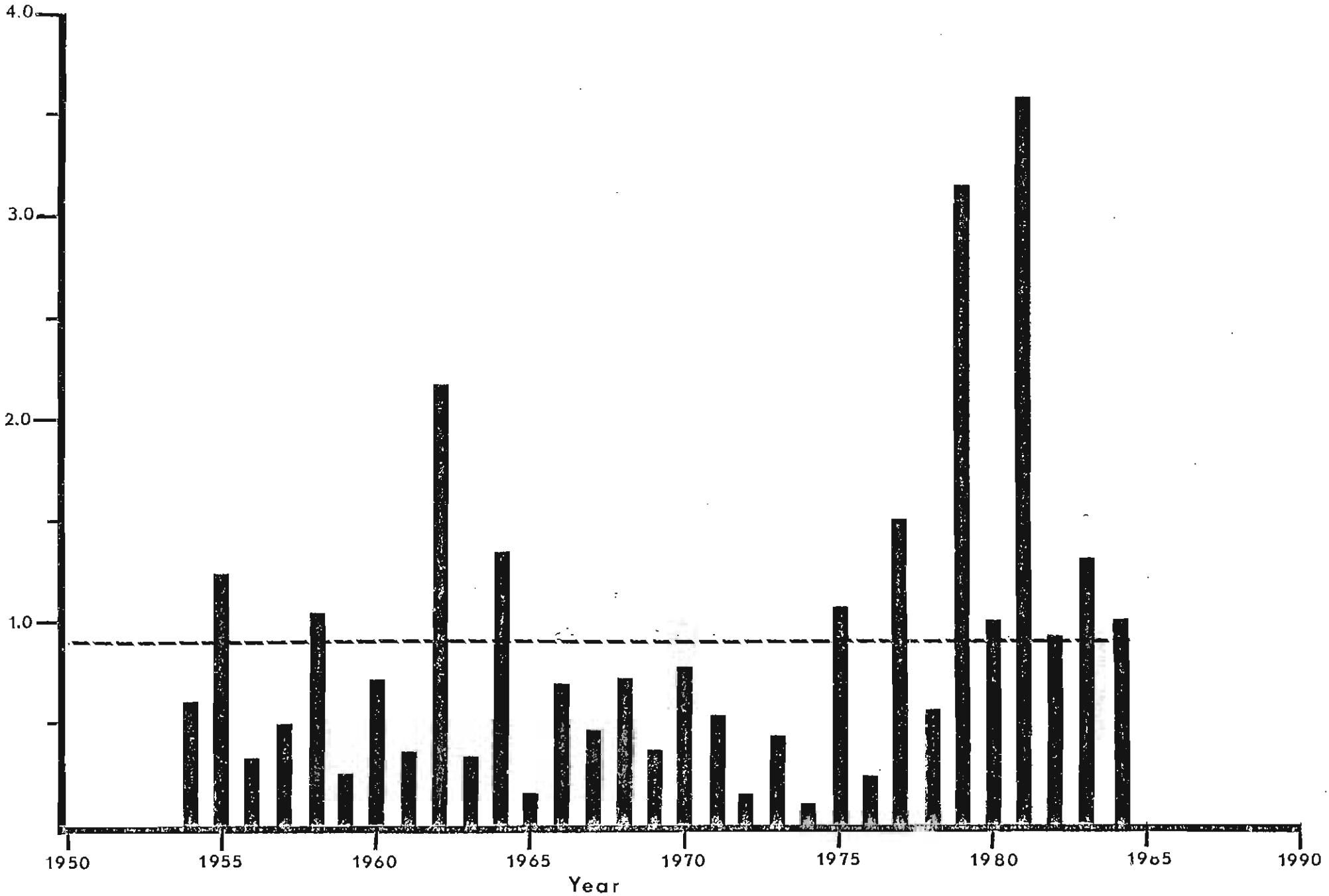

Figure 2 . Lower Cook Inlet total salmon catch, 1954-

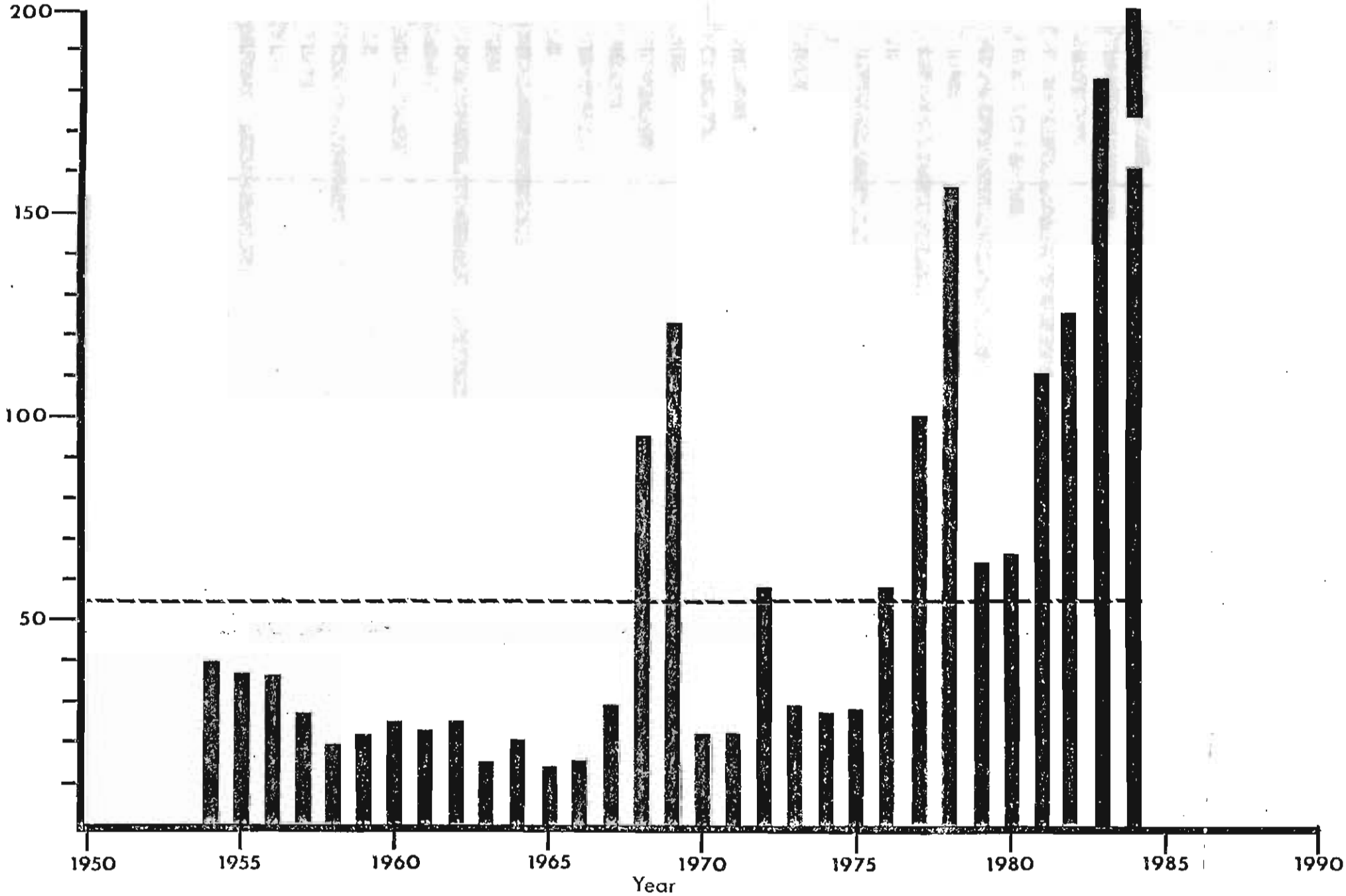

Figure 3 . Lower Cook Inlet sockeye salmon catch, 1954 -

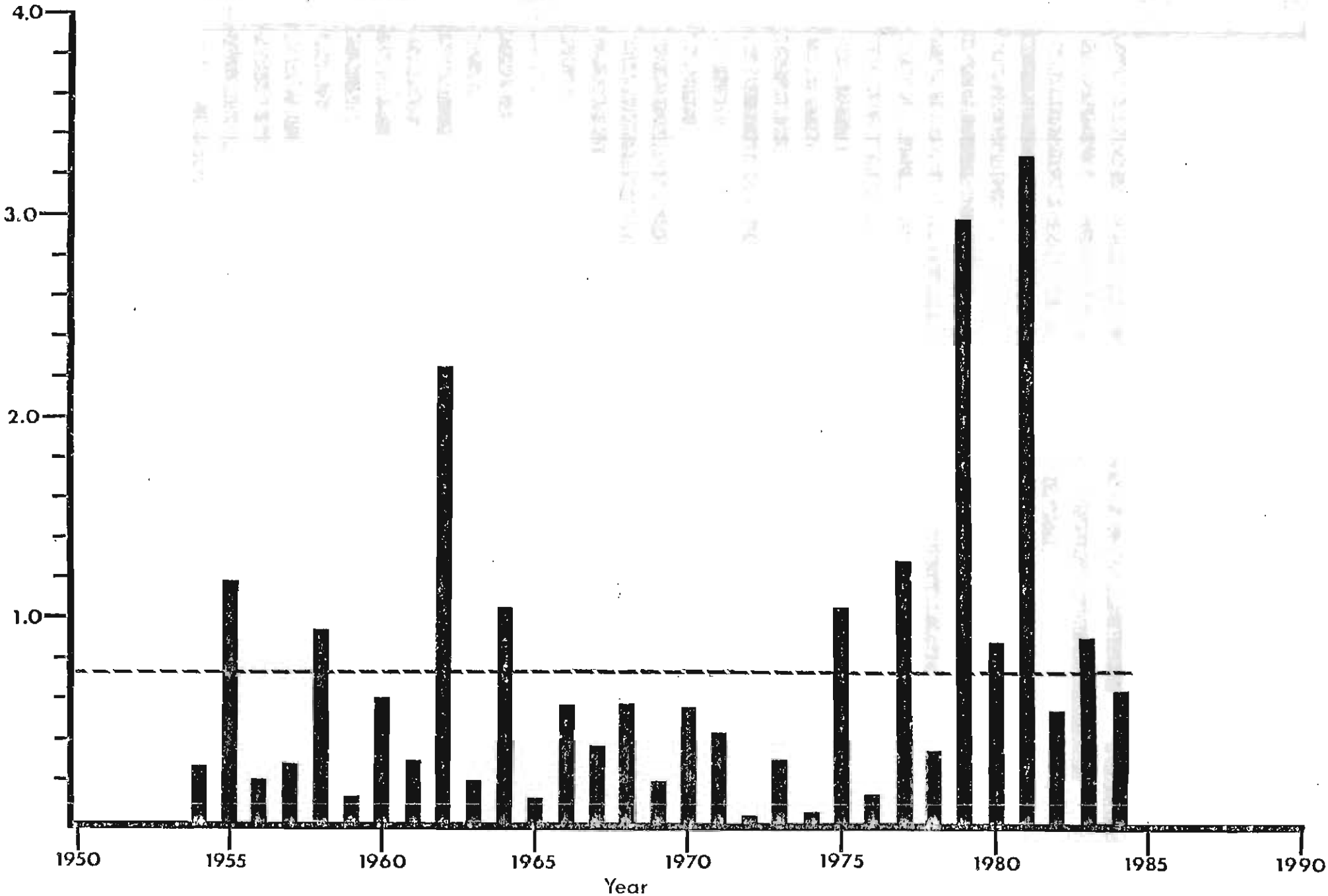

Figure 4. Lower Cook Inlet pink salmon catch, 1954 -

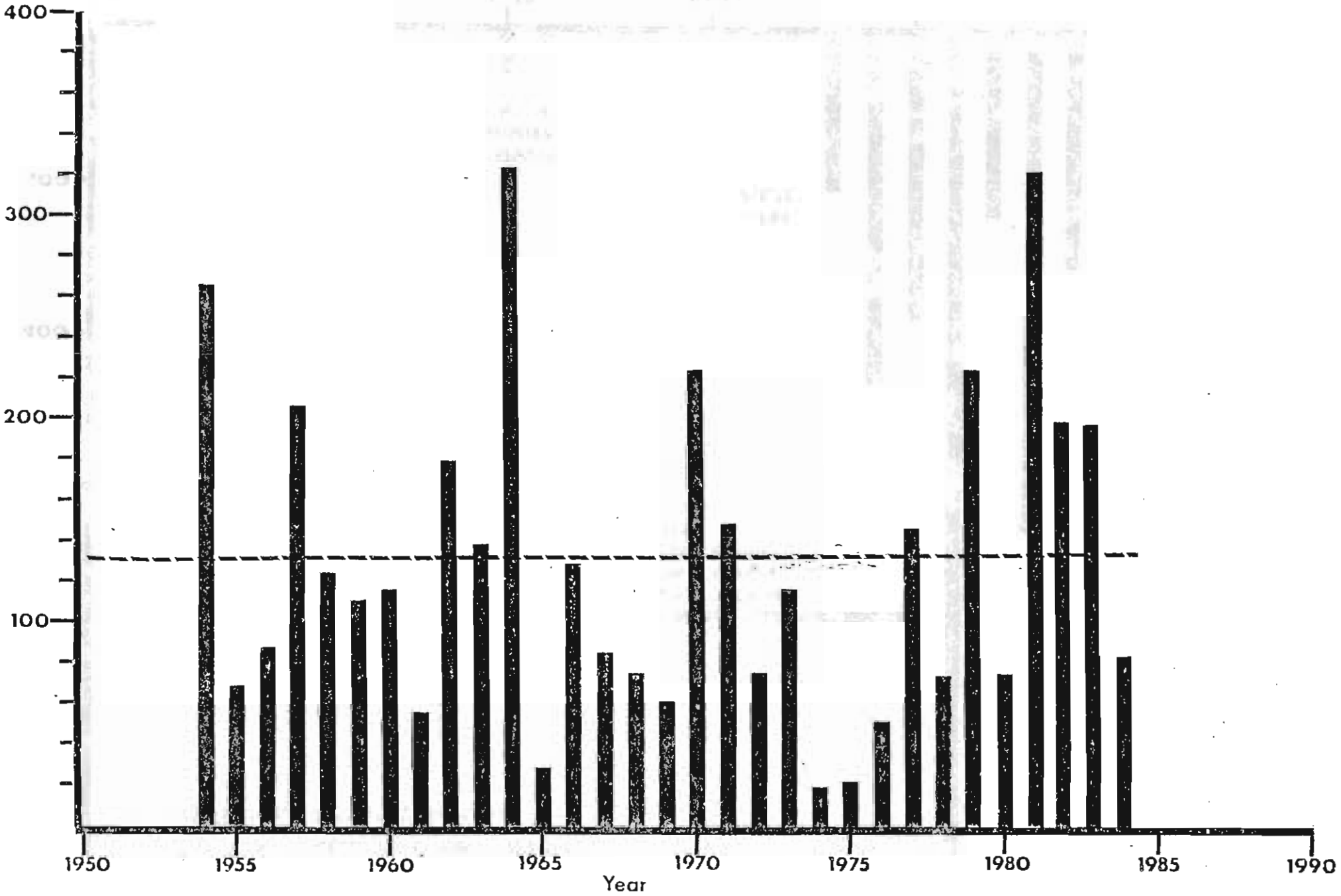

Figure 5. Lower Cook Inlet chum salmon catch, 1954 -

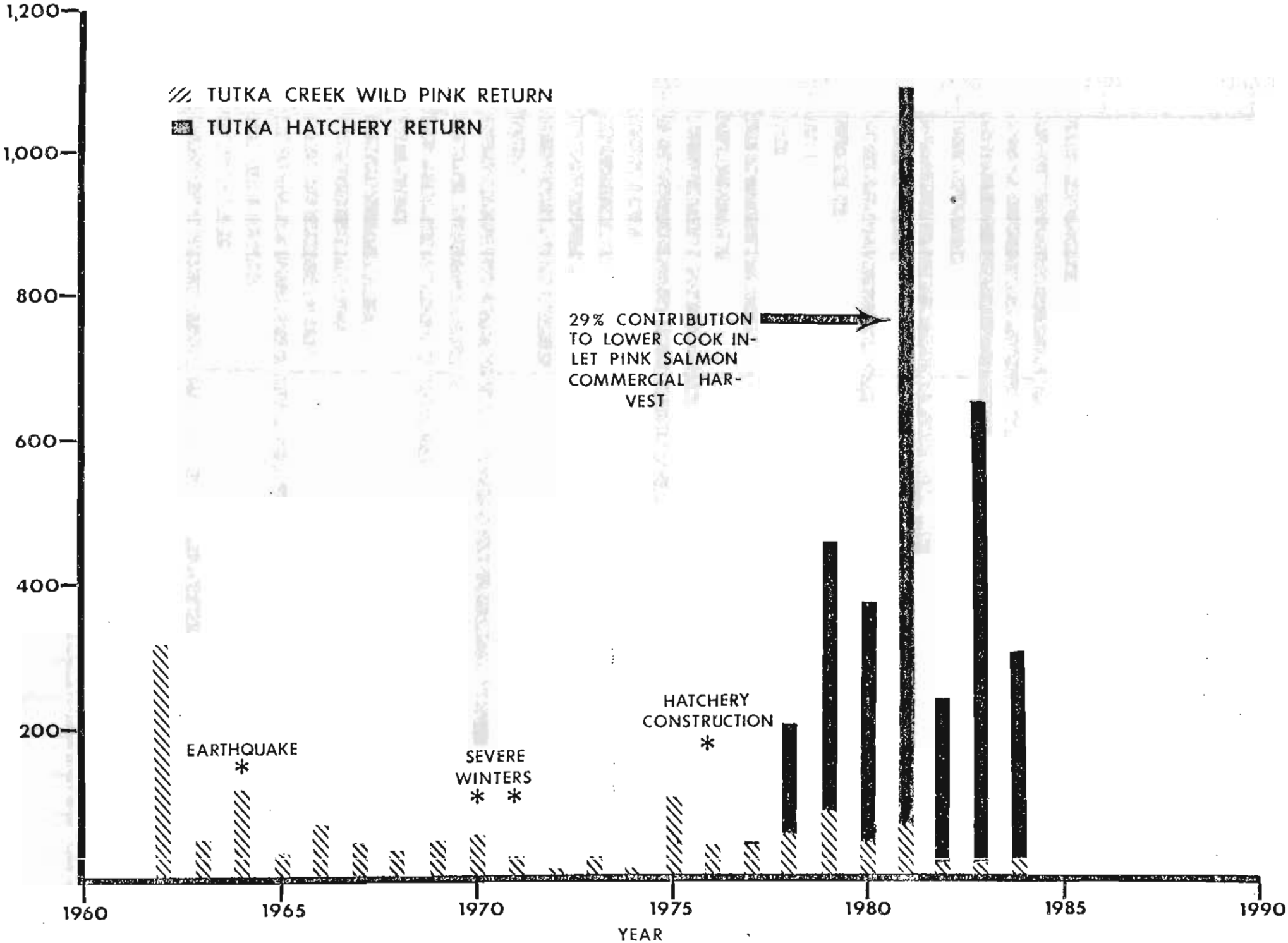

Figure 6. Tutka Creek wild pink salmon returns with recent years' hatchery contribution.

Table 1. Lower Cook Inlet salmon catch by species, district and gear, 1984.1/

	KING	SOCKEYE	COHO	PINK	CHUM	TOTAL
SOUTHERN DISTRICT						
Set Net	643	45,806	2,979	20,764	5,412	75,604
Seine	18	117,438	436	316,021	4,186	438,099
TOTAL	661	163,244	3,415	336,785	9,598	513,703
OUTER DISTRICT	3	28,411	90	89,068	3,077	120,649
KAMISHAK DISTRICT	2	24,642	13,230	137,133	70,595	245,602
EASTERN DISTRICT	47	54,459	536	135,290	10,534	200,866
TOTAL	713	270,756	17,271	698,276	93,804	1,080,820
30 Year Average	361	62,104	7,473	752,037	126,162	948,137

1/ Preliminary data.

Table 2. Lower Cook Inlet escapement goals, average observed, and 1984 escapements of pink salmon.

SOUTHERN DISTRICT	ESC. GOAL	AVE. ESC. 1/	1984 ESC.
Humpy Creek	25,000 - 50,000	53,500	84,200
Tutka Lagoon	6,000 - 10,000	12,200	10,500
Seldovia Creek	25,000 - 35,000	38,400	14,200
Port Graham River	20,000 - 40,000	14,800	10,900
China Poot Bay	5,000	9,000	8,400
Barabara Creek	18,000 - 24,000	5,000	1,000
Total	99,000 - 164,000	132,900	129,200
OUTER DISTRICT			
Rocky River	50,000	19,800	9,000
Windy Left River	30,000 - 50,000	15,500	2,500
Windy Right River	10,000	4,700	3,400
Port Dick Creek	20,000 - 100,000	46,800	44,600
Island Creek	12,000 - 18,000	6,900	35,000
South Nuka Creek	10,000	13,000	600
Port Chatham Streams	10,000 - 15,000	10,000	7,800
Total	142,000 - 253,000	116,700	102,900
KAMISHAK DISTRICT			
Big Kamishak River	20,000	31,000	0
Little Kamishak River	20,000	22,000	100
Amakdedori Creek	5,000	16,000	0
Bruin Bay River	25,000 - 50,000	74,000	110,000
Sunday Creek	10,000	11,000	12,000
Brown's Peak Creek	10,000	10,000	6,800
Total	90,000 - 115,000	164,000	128,900
EASTERN DISTRICT 2/			
Bear Creek	5,000	9,800	7,700
Salmon Creek	10,000	16,100	10,200
Mayor Creek	2,000	3,000	1,500
Clear Creek	2,000	1,300	3,400
Thumb Cove	1,000	3,300	4,200
Humpy Cove	2,000	3,000	2,500
Tonsina Creek	5,000	3,900	6,000
Total	27,000	41,000	35,500
LOWER COOK INLET TOTAL	358,000 - 559,000	454,600	396,500

1/ Average escapement figures are based on weir counts, ground and aerial surveys conducted between 1951 and 1982. For many streams only several years data exist.
2/ Average escapements for pinks are for even years only.

Table 3. Lower Cook Inlet escapement goals, average observed and 1984 escapements for chum salmon. 1/

OUTER DISTRICT	ESCAPEMENT GOAL (RANGE)	AVE. OBS. ESCAPE.	1984 ESCAPE.
Dogfish Lagoon	5,000 - 10,000	6,400	8,600
Port Chatham (streams)	*	1,500	200
Windy Right River	*	1,500	300
Windy Left River	*	1,300	100
Rocky River	20,000	9,000	3,500
Head End Creek	4,000	5,200	2,700
Island Creek	10,000 - 15,000	9,800	25,600
Middle Creek	*	2,000	600
Petrof River	2,000 - 5,000	3,000	1,500
	41,000 - 54,000	39,700	43,100
KAMISHAK DISTRICT			
Silver Beach (streams)	*	4,000	100
Main Left (streams)	5,000 - 10,000	6,000	600
Big Kamishak River	20,000	14,900	19,000
Little Kamishak River	20,000	12,000	12,000
McNeil River	10,000 - 20,000	24,500	21,000
Cottonwood Creek	10,000	6,100	6,500
Iniskin River	10,000	8,900	9,800
Bruin River	5,000	7,400	8,000
Rocky Cove (Sunday Creek)	*	1,000	500
Ursus Cove (streams)	5,000 - 10,000	6,500	7,000
	85,000 - 110,000	91,300	84,500
SOUTHERN DISTRICT			
Tutka Creek	*	1,100	500
Seldovia River	*	1,200	800
Port Graham River	4,000 - 8,000	2,100	2,100
	4,000 - 8,000	4,400	3,400
LOWER COOK INLET TOTAL	130,000 - 172,000	135,400	131,000

1/ Average escapement figures are based on weir counts and ground and aerial surveys conducted between 1951 and 1984. For many streams, only several years of data exist.

*No established goal.

Table 4. Lower Cook Inlet escapement goals, average observed and 1984 escapements for sockeye salmon.

	Escapement Goal	Average Escape.	1984 Escape.
SOUTHERN DISTRICT			
English Bay	10,000 - 20,000	8,500	11,100
Clearwater Slough	*	-	200
Total	10,000 - 20,000	8,500	11,300
OUTER DISTRICT			
Desire Lake	10,000	8,300	15,000
Delight Lake	10,000	6,900	10,500
Anderson Beach	2,000	500	1,200
Total	22,000	15,700	26,700
EASTERN DISTRICT			
Aialik Lake	2,500 - 5,000	8,500	22,000
Bear Lake	*	*	500
Total	2,500 - 5,000	8,500	22,500
KAMISHAK DISTRICT			
Mikfik Lake	5,000	6,700	6,000
Chenik Lake	10,000 - 20,000	2,400	13,000
Kamishak River	*	2,800	2,500
Douglas River	*	1,200	0
Douglas Beach	*	400	100
Total	15,000 - 25,000	13,500	21,600
LOWER COOK INLET TOTAL	49,500 - 72,000	46,200	82,100

*Data not available.

Table 5. Emergency order commercial fishing periods in Lower Cook Inlet, 1984.

Number	Date	Description
2H-011-84	May 1	Opens Resurrection Bay north of the latitude ofTonsina Creek to seining from 6:00 a.m. Thursday May 24 through June 30 seven days per week. The closed fishing area at the head of the bay was opened to fishing.
2H-013-84	June 4	Opens the Kamishak-Douglas, McNeil River and Bruin Bay subdistricts at 6:00 a.m. Tuesday June 5 to seining seven days per week.
2H-014-84	June 6	Opens McNeil Lagoon at 10:00 a.m. Wednesday June 6.
2H-016-84	June 18	Opens the East Nuka subdistrict by flare at 7:30 a.m. Wednesday June 20, the Aialik Bay subdistrict at 6:00 a.m. June 20 and allows a 30 minute opening by flare in Aialik Lagoon from 6:00 until 6:30 a.m. June 20.
2H-017-84	June 17	Closes McNeil River Lagoon at 6:00 a.m. Tuesday June 19 and opens the Tutka Bay subdistrict and the China Poot section of the Humpy Creek subdistrict at 6:00 a.m. Monday June 25.
2H-019-84	June 20	Removes the markers at the HEA powerline in China Poot Bay and allows fishing up to markers located at the creek mouth.
2H-020-84	July 2	Removes the markers at Desire Lake at 12:00 noon Monday July 2.
2H-021-84	July 2	Opens Aialik Lagoon by flare for 10 minutes from 5:15 until 5:25 p.m. Monday July 2 and opens Chenik Lagoon for 15 minutes from 2:45 until 3:00 p.m. Monday July 2.
2H-022-84	July 2	Closes waters of the Kamishak district north of Nordyke Island and south of Amakdedori Creek and reduces fishing time from seven days per week to the standard two 48 hour weekly periods at 6:00 a.m. Wednesday July 4.

Table 5. (Continued)

2H-023-84	July 5	Opens Aialik Lagoon to seining at 6:00 p.m. Thursday July 5 until further notice and removes the markers at Delight Lake at 1:30 p.m. July 5, which opens McCarty Lagoon.
2H-024-84	July 6	Opens Tutka Lagoon for two hours by flare from 6:00 until 8:00 a.m. Monday July 9.
2H-027-84	July 10	Closes the McNeil River subdistrict at 12:00 noon Tuesday July 10.
2H-028-84	July 10	Opens the Humpy Creek and Seldovia Bay subdistricts and that portion of the Port Dick subdistrict southeast of a line from the Department markers on the west shore of Middle Creek to the southeast point of Shelter Cove to salmon seining at 6:00 a.m. Thursday July 12. Fishing is allowed up to the Department marker buoy at Humpy Creek.
2H-030-84	July 13	Opens the Dogfish Bay subdistrict and Day Harbor and removes the markers on all streams in Day Harbor at 6:00 a.m. Monday July 16.
2H-031-84	July 17	Closes Aialik Lagoon at 6:00 a.m. Wednesday July 18.
2H-032-84	July 18	Opens Tutka Lagoon by flare for two hours from 10:00 p.m. until midnight Thursday July 12.
2H-033-84	July 20	Closes Day Harbor and the Port Dick, Seldovia and Dogfish Bay subdistricts at 6:00 a.m. Saturday July 21.
2H-034-84	July 20	Opens Resurrection Bay for 24 hours from 6:00 a.m. Monday July 23 until 6:00 a.m. Tuesday July 24, opens the Cottonwood Bay subdistrict for two hours from 8:00 until 10:00 a.m. Monday July 23 and opens the Rocky Cove subdistrict by flare for two hours from 8:00 until 10:00 a.m. July 23.
2H-035-84	July 20	Opens Aialik Lagoon at 6:00 a.m. Monday July 23 and puts the markers back in effect at Delight and Desire Lakes at 6:00 a.m. Monday July 23.

Table 5. (Continued)

2H-036-84	July 20	Opens the Iniskin Bay subdistrict for 48 hours from 6:00 a.m. Monday July 23 until 6:00 a.m.Wednesday July 25.
2H-037-84	July 20	Opens the Bruin Bay "pothole" seven days per week at 6:00 p.m. Friday July 20.
2H-040-84	July 23	Extends fishing in the Cottonwood Bay subdistrict for two hours from 10:00 a.m. until 12:00 noon Monday July 23.
2H-041-84	July 25	Opens the Port Graham, Port Dick and Dogfish Bay subdistricts at 6:00 a.m. Thursday July 26.
2H-042-84	July 24	Extends fishing time in the Humpy Creek subdistrict to seven days per week effective at 6:00 a.m. Wednesday July 25.
2H-043-84	July 25	Extends fishing time in the Iniskin Bay subdistricts for 48 hours from 6:00 a.m. Thursday July 26 until 6:00 a.m. Saturday July 28, closes the Bruin Bay "pothole" and puts the markers at the HEA powerline in China Poot Bay back in effect at 6:00 a.m. Thursday July 26.
2H-047-84	July 27	Extends fishing time in the Iniskin Bay subdistrict for 48 hours from 6:00 a.m. Monday July 30 until 6:00 a.m. Wednesday August 1.
2H-048-84	July 27	Opens Resurrection Bay north of the latitude of Caines Head and including Humpy Cove for 24 hours from 6:00 a.m. Monday July 30 until 6:00 a.m. Tuesday July 31 and removes the markers at Thumb Cove for one hour from 9:00 until 10:00 a.m. Monday July 30.
2H-049-84	August 1	Closes the China Poot section of the Humpy Creek subdistrict and puts fishing in the Humpy Creeksubdistrict back on the standard two 48 weekly periods at 6:00 a.m. Thursday August 2.
2H-050-84	August 3	Opens Resurrection Bay north of Caines Head for 24 hours from 6:00 a.m. Monday August 6 until 6:00 a.m. Tuesday August 7.

Table 5. (Continued)

2H-053-84	August 3	Opens the Rocky Cove, Ursus Cove, Cottonwood Bay and Iniskin Bay subdistricts for 48 hours from 6:00 a.m. Saturday August 4 until 6:00 a.m. Monday August 6 and afterwards on the standard two 48 hour weekly periods. Removes markers at Sunday Creek and Browns Peak Creek.
2H-054-84	August 3	Opens the Bruin Bay "pothole" at 4:30 p.m. Friday August 3.
2H-055-84	August 8	Removes markers at Desire Lake Creek at 6:00 a.m. Thursday August 9.
2H-056-84	August 15	Closes the Bruin Bay "pothole" and puts the Bruin Bay subdistrict back on the standard weekly fishing periods at 6:00 a.m. Wednesday August 15, 1984.
2H-063-84	Sept. 10	Closes the Kachemak Bay salmon subsistence fishery at 6:00 a.m. Saturday September 15.

Table 6. Preliminary Estimate of Adult Pink Salmon return to Tutka Bay and Lagoon, 1984.

Commercial Harvest:	
Seine	231,054
Set Net	10,000
Sub-Total	241,054
Sport Catch	8,000
Escapement:	
Tutka Creek and Channel	10,500
Egg-Take	41,000
Total Return	300,554

Tutka Lagoon Hatchery contribution estimated at 285,526 or 95% of the total run.

Table 7. Tutka Bay (241-16) Pink Salmon Seine Catch by Statistical Week.

	1978		1979		1980		1981	
Week	Entire Subdistrict	Lagoon Only	Entire Subdistrict	Lagoon Only	Entire Subdistrict	Lagoon Only	Entire Subdistrict	Lagoon Only
25								
26			3,786		3,691		8,647	
27			129,659		17,630		101,301	
28	24,683		178,178	68,500	76,810		239,547	
29	19,077		50,873	24,000	130,608	35,074	301,919	42,000
30	83,681	47,143	22,574	20,700	34,669		166,796	35,000
31	19,980	17,143	15,392	14,500	22,014	20,500	107,918	12,000
32	12,357	11,100			22,755	21,481	47,096	10,000
33	818						19,071	13,700
34							7,343	7,243
Total Seine Catch	160,596	75,386	400,462	127,700	308,177	77,055	999,838	119,943
Set Net Catch	7,266		21,354		13,336		26,736	
Sport Catch	---		2,000		5,000		6,000	
Egg Take	21,100		21,200		26,897		22,000	
Escapement	15,000		10,600		17,300		28,000	
Total Return	203,962		455,616		370,710		1,082,574	

1/ Preliminary data only.

Table 7. (continued)

1982		1983		1984	
Entire Subdistrict	Lagoon Only	Entire Subdistrict	Lagoon Only	Entire Subdistrict	Lagoon Only
				7,312	
3,560		13,782		40,700	
49,703	8,500	92,230		91,774	38,200
40,730		152,238	35,000	76,639	44,700
24,933		247,119	35,000	14,629	
44,326	24,000	68,522	18,000		
4,091		28,380	10,000		
10,434	11,000	1,751			
--					
177,777	57,100	603,822	98,000	231,054	82,900
7,099		11,637		10,000	
2,000		5,000		8,000	
41,200		53,900		41,000	
18,500		12,900		10,500	
246,576		687,159		300,554	

Table 8. Estimated Pink Salmon Escapements in Thousands of Fish for the Nine Index Streams in the Souther and Outer Districts of Cook Inlet. 1/

YEAR	HUMPY	TUTKA 3/	SELDOVIA	PORT GRAHAM	WINDY LEFT 6/	WINDY RIGHT	ROCKY 8/	PORT DICK 6/	ISLAND CREEK	TOTAL
1964	18.5 2/	20.0	60.0	16.0	7.7	6.2	80.0	31.5	30.0	269.9
1965	28.0	20.0	30.0	1.5	10.0	2.0	.3	50.0	.5	142.3
1966	30.0	12.0	86.0	24.0	7.0	7.0	44.0	35.0	7.0	252.0
1967	25.0	7.0	55.0	2.0	6.0	6.0	1.0	20.0	.5	122.5
1968	24.7	7.9	53.2	24.4	6.9	2.8	43.1	29.0	4.3	196.3
1969	5.4	6.5	60.0	4.0	23.0	3.2	1.0	12.0	.1	115.2
1970	55.2	6.5	23.0	16.6	13.0	2.1	32.0	34.5	5.5	188.4
1971	45.0	16.7	31.1	13.2	35.4	13.0	1.6	97.8 2/	.1	253.9
1972	13.8	1.5	5.8	2.4	.4	.1	8.2	10.0 2/	1.7	43.9
1973	36.9	6.5	14.5	7.0	12.9	4.6	2.0	26.4 2/	.5	111.3
1974	17.4	2.6	13.7	2.8	.1	.1	1.5	1.5 2/	.5	40.2
1975	64.0	17.6	36.2	27.3	18.7	9.7	4.4	62.8 2/	.1	240.8
1976	27.2	11.5	25.6	6.5	0.2	0.2	2.7	12.7	0.0	86.6
1977	86.9	14.0	35.7 4/	20.6 4/	47.3	11.1	36.7	109.3	0.6	361.3
1978	46.1	15.0	24.6	6.7	1.1	0.3	8.2	44.9	0.4	147.3
1979	200.0	10.6	43.8	32.7	74.8	10.4	85.5 4/	116.9	0.5	574.7
1980	64.4	17.3	65.5	40.2	10.9	3.3	6.4 4/	56.1 7/	2.2	266.3
1981	115.0	21.1	62.7	18.4	31.3	4.7	25.0	106.0	25.0	409.2
1982	31.9	18.5	38.4	28.9	4.4	4.7	6.6	19.9	15.0	168.3
1983	104.8	12.9	27.9	4.6	11.9	4.3	16.1	64.1	15.3	261.9
1984	84.2	10.5	14.2	10.9	2.5	3.4	9.0	44.6	35.0	214.3
Total	1123.5	256.2	806.9	310.7	325.5	99.2	414.8	982.0	144.8	4,463.6
Average	53.5	12.2	38.4	14.8	15.5	4.7	19.8	46.8	6.9	212.5
Escape. Range	22.5-30	4.5-7 5/	24-30	20-40	7.5-10	7.5-10	37.5-50	22.5-30	10-15	156-222 even yr. 221-317 odd yr.

1/ Escapement estimate derived from peak counts or calculated from counts made throughout the spawning season. When series counts were available, the total fish/days was divided by average stream life (2.5 weeks) to estimate total escapement.

2/ Weir counts.

3/ Does not contain F.R.E.D. egg facility pink salmon adult harvests of 3,400 in 1975; 10,814 in 1976; 6,528 in 1977; 21,100 in 1978; 21,200 in 1979; 26,897 in 1980; 20,606 in 1981; 32,000 in 1982, 53,800 in 1983 and 42,300 in 1984.

4/ Due to flooding, expanded aerial survey counts were used to fill vacancies in ground counts.

5/ An additional 20,000 adults are needed for hatchery egg-take requirements.

6/ Escapement ranges have been increased to 25-35,000 for Windy Left and 70-100,000 in Port Dick in years where large numbers of upstream spawners return.

7/ 3,000 pinks transplanted in Scurvey Creek in 1980.

8/ 50 and 1,000 chums transplanted in Scurvey Creek in 1980 and 1981, respectively, along with 3,600 pinks in 1981.

Table 9. Estimated Chum Salmon Escapements in Thousands of Fish in the Major Spawning Systems in Lower Cook Inlet. 1/

Year	Port Graham	Dogfish Lagoon	Rocky River	Pt.Dick Head	Island Creek	Big Kamishak	Little Kamishak	McNeil River	Bruin Bay	Ursus Cove	Cottonwood Creek	Iniskin Bay	Total
1964	1.0	12.0	5.0	8.0	8.0	25.0	*	90.0	*	*	*	11.0	160.0
1965	*	3.5	*	3.5	4.0	*	*	*	*	*	*	0.7	11.7
1966	*	11.0	7.0	4.0	6.0	5.0	0.5	*	*	*	*	*	33.5
1967	*	15.0	5.0	3.0	5.0	*	*	*	*	*	*	*	28.0
1968	1.5	1.5	3.0	20.0	1.5	*	*	*	*	*	5.0	5.0	37.5
1969	*	*	3.0	4.5	4.0	*	*	*	*	*	*	*	11.5
1970	0.9	5.0	*	6.0	8.5	*	*	*	*	*	0.6	*	21.0
1971	1.0	5.0	7.0	3.0	3.5	*	*	*	1.0	*	9.0	13.0	42.5
1972	1.5	3.0	3.0	6.0	2.0	*	*	*	1.0	1.6	4.0	10.0	32.1
1973	2.0	1.0	2.0	9.0	7.0	4.0	1.0	10.0	8.0	3.0	4.0	12.0	63.0
1974	0.5	0.6	1.0	0.8	5.0	7.1	0.6	1.5	3.0	3.5	2.5	7.0	33.1
1975	3.0	5.0	25.0	4.0	7.4	1.1	1.9	1.5	1.5	5.0	8.0	7.0	70.4
1976	0.4	3.0	12.0	1.5	1.0	24.0	21.0	10.0	4.0	6.0	5.0	13.5	101.4
1977	5.2	6.4	10.5	5.0	11.1	*	*	20.0	18.0	9.3	10.0	4.4	99.9
1978	4.8	9.3	6.3	8.9	16.9	23.0	30.0	45.0	4.0	9.7	12.5	11.4	181.6
1979	2.2	8.2	35.0	4.0	16.8	15.0	15.0	8.0	15.0	5.0	2.5	4.0	130.7
1980	1.1	4.0	23.0	4.2	10.9	10.0	13.0	8.0	15.0	8.0	4.2	9.3	110.7
1981	4.8	11.5	12.5	4.1	17.5	11.0	6.0	30.0	10.0	10.0	9.0	9.0	135.4
1982	2.5	8.5	2.8	1.7	8.7	25.0	18.0	25.0	10.0	9.0	7.0	12.8	131.0
1983	1.9	5.3	4.0	4.5	36.2	25.0	25.0	48.0	5.5	7.7	8.3	12.0	183.4
1984	2.1	8.6	3.5	2.7	25.6	19.0	12.0	21.0	8.0	7.0	6.5	9.8	125.8
21 Year Total	36.4	127.4	170.6	108.4	206.6	194.2	144.0	318.0	104.0	84.8	98.1	151.9	1,744.4
Avg.	2.1	6.4	9.0	5.2	9.8	14.9	12.0	24.5	7.4	6.5	6.1	8.9	83.1
Escap. Goal	4.0-5.0	10-15	20-40	4.0-5.0	10-15	20-50	20-30	20-50	5-10	8-12	10-15	10-15	141-262

* No surveys conducted due to numerous factors; i.e weather, money.

1/ Most of these estimated escapements are either peak counts from aerial surveys or adjusted figures from aerial surveys based on survey conditions and time of surveys.

Table 10. Estimated sockeye salmon escapements in thousands of fish in major spawning systems in Lower Cook Inlet. 1/

Year	English Bay	Anderson Beach	Delight Lake	Desire Lake	Bear Lake	Aialik Lake	Mikfik Lake	Chenik Lake	Amakde. Creek	Kamishak River	Douglas River	Douglas Beach	Total
1959	5.0		5.0	-	-	-	1.0	-	-				11.0
1960	16.0		1.0	4.0	9.3	-	-	0.8	1.5		0.4		33.0
1961	10.0	1.0	10.0	10.0	3.0	10.0	3.0	0.1	2.5		-		49.6
1962	2.0	0.2	5.0	4.0	3.6	16.0	2.6	1.5	2.5		2.5		39.9
1963	10.0		8.0	1.4	8.9	20.0	0.2	0.3	7.0				55.8
1964	-		0.3	10.0	4.7	2.0	-	-	-				17.0
1965	3.0		-	-	3.8	-	-	-	-				6.8
1966	3.0		4.3	9.0	1.9	4.0	-	0.2	2.0				24.4
1967	6.0		-	0.3	3.3	-	-	2.5	0.2				12.3
1968	-		-	0.3	59.0	-	0.7	-	-				60.0
1969	5.0		-	8.0	21.2	-	-	-	1.5				35.7
1970	8.0		4.6	2.0	5.8	-	1.0	-	0.3				21.7
1971	6.5		5.0	5.0	0.4	3.0	5.0	2.0	1.2				28.1
1972	14.5		10.0	8.0	0.7	0.6	13.0	0.7	1.0				48.5
1973	4.4		2.5	5.2	0.2	1.5	2.7	0.3	2.2				19.0
1974	-		-	-	0.1	2.2	0.9	0.1	0.4				3.7
1975	2.5		2.0	6.5	+	8.0	6.0	0.1	0.8				25.9
1976	6.0		6.0	11.0	0.6	8.0	10.0	0.9	1.6		0.2	0.1	44.4
1977	12.5		5.2	10.7	+	5.0	9.8	0.2	2.6		2.6	0.4	49.0
1978	10.0	0.6	8.0	10.0	+	3.0	12.0	0.1	2.6	1.0	-	0.1	47.4
1979	4.4		8.0	12.0	+	5.0	6.0	+	1.0	0.4	-	0.3	37.1
1980	12.0	0.3	10.0	17.0	1.5	6.6	6.5	3.5	2.6	0.1	0.4	0.5	61.0
1981	10.5		7.3	12.0	0.7	1.8	5.3	2.5	1.9	0.8	0.2	0.3	43.3
1982	20.0	0.6	25.0	18.0	0.5	22.4	35.0	8.0	3.2	10.0	4.2	1.6	148.5
1983	12.0	0.5	7.0	12.0	0.7	20.0	7.0	11.0	1.2	5.0	0.5	0.4	77.3
1984	11.1	1.2	10.5	15.0	0.5	22.0	6.0	13.0	1.4	2.5	0	0.1	83.3
Total	194.4	4.4	144.7	191.4	130.4	161.1	133.7	47.8	41.2	19.8	11.0	3.8	1,083.7
Ave. Esc.	8.5	0.6	6.9	8.3	5.2	8.5	6.7	2.4	1.9	2.8	1.2	0.4	41.7
Goal	10-20	2.0	10.0	10.0	0.5-1.0	2.5-5.0	5.0	10.0	1.0	*	*	*	51.0-64.0

* No escapement goal set.

1/ Most escapements are estimated from peak aerial survey counts or are adjusted figures from aerial surveys based on weather conditions.

2/ Limited by Bear Lake Management Plan since 1971.

Table 11. Pink salmon alevin density by brood year for index streams in the Southern and Outer districts of Cook Inlet, 1964-1982. 7/

Year	Humpy	Tutka	Seldovia	Port Graham	Windy Left	Windy Right	Rocky	Port Dick	Island Creek	China Poot 1/	Ave. 9/
1964	199.1	195.8	284.1	242.1	100.1	75.3	131.3	222.7	80.7	0.0 6/	170.1
1965	245.7	154.7	151.3	40.5	21.2	48.4	0.0 2/	149.6	0.0	244.3	90.2
1966	131.3	120.5	136.6	165.7	28.3	13.9	11.4	43.4	67.4	673.8	79.8
1967	42.0	40.5	177.8 3/	58.1	39.8	83.9	0.0 2/	319.6	0.0	973.8	84.6
1968	628.4 5/	516.5	506.5	302.2	94.6	195.2	142.0 10/	236.1	67.3	1,933.6	298.8
1969	161.4 5/	348.0	493.2	247.9	325.8	779.0	0.0 2/	195.8	0.0	0.0 6/	283.5
1970	517.6	0.0 6/	0.0 6/	106.3	44.1	67.8	0.0 6/	62.4	23.7	0.0 6/	
1972	94.7	149.3	208.3	79.2	0.0 2/	0.0 2/	18.0	39.8	11.8	1,035.1	66.8
1973	377.6	495.4	405.1	187.6	157.7	422.2	0.0	90.6	0.0 2/	0.0 6/	237.4
1974	391.1	584.3	553.2	167.7	0.0 2/	0.0 2/	0.2	25.4	0.0 2/	1,181.5	191.3
1975	724.1	581.3	368.1 8/	379.6	174.5	448.9	22.6	192.2 8/	0.0 2/	1,667.8	321.3
1976	214.0	372.8	315.7	85.7	0.0 2/	0.0 2/	0.5	144.5	0.0 2/	445.7	125.9
1977	1,005.5	353.2	398.0	207.8	405.0	611.3	30.4 8/	480.0	1.7	951.9	388.1
1978	306.8	491.2	394.8	191.7 10/	27.0 11/	27.0	29.8	208.5	4.5	657.1	186.8
1979	764.6	342.0	279.2	283.9	198.2 12/	260.4 12/	204.4	561.5	68.5	268.6	329.2
1980	68.4	194.5	179.6	161.7	162.8	148.1	0.0 13/	62.3	91.1	45.2	118.7
1981	374.2	422.1	520.0	318.6	121.4	299.1	6.2	248.4	233.2	0.0 13/	254.3
1982	210.8	89.2	124.7	193.8	0.0 13/	0.0 13/	0.0 12/	199.3	83.6	753.6	100.1
1983	132.2	131.6	57.2	173.4	120.2	361.6	0.0 13/	103.4	128.0	0.0	134.2
Total	6,589.4	5,592.9	5,552.4	3,593.5	2,020.7	3,842.1	596.6	3,585.5	861.5	10,835.0	3,481.6
Avg.	346.8	294.4	292.2	189.1	106.4	202.2	31.4	188.7	45.3	570.3	183.2

1/ This stream was not used in further calculations (weighted averages).
2/ Estimated zero fry density since escapements were estimated to be below 300 spawners.
3/ Used average pre-emergent fry density from previous two odd years. Not sampled for 1967.
4/ Average even-year density from years 1962, 1964 and 1966.
5/ Used sample size of 150 points.
6/ Not sampled due to ice conditions.
7/ Sampling invalid due to lateness in 1971.
8/ Possibly had some early outmigration of pink fry salmon.
9/ Averages do not include China Poot.
10/ Incomplete sampling due to high water.
11/ Not samples - assumed to be similar to Windy Right.
12/ Sampled late. Fry already emerged.
13/ Not sampled due to weather.

Table 12. Pink salmon catch for Lower Cook Inlet in thousands of fish by bay during odd numbered years. 1/

Catch Location	1959	1961	1963	1965	1967	1969	1971	1973	1975	1977	1979	1981	1983
Humpy Creek	13.2	67.9	57.4	13.8	40.4	0.6	11.4	44.3	339.4	26.9	298.0	250.9	26.9
Tutka Bay	14.4	106.8	37.7	44.6	31.6	32.4	10.3	20.0	89.2	21.9	411.3	1,023.5	615.5
Seldovia Bay	4.9	15.1	1.6	19.2	11.7	28.7	27.3	19.4	429.6	47.6	140.8	126.4	43.1
Port Graham Bay	5.3	1.0	2.7	12.4	5.1	2.0	1.0	13.9	18.3	44.8	124.7	45.9	4.1
Dogfish Bay	1.6	0	0	0.1	2.3	0	10.4	0.3	0	5.0	7.4	22.9	0.2
Port Chatham	1.2	0	0.8	0	0	0	26.3	12.0	16.0	1.4	174.4	47.6	3.0
Windy Bay	3.1	2.2	0	5.4	0	0	57.3	68.5	18.1	173.2	551.4	82.9	0
Rocky Bay	2.3	0	1.4	0.1	0	0	0.1	0.2	0	11.6	122.2	16.5	1.3
Port Dick Bay	28.2	92.9	19.0	15.3	259.9	51.5	94.6	96.6	90.3	880.3	962.9	1,140.9	138.6
Nuka Bay	33.3	2.0	0.3	0	0.1	0	119.7	8.1	35.4	56.3	121.7	395.1	56.4
Resurrection Bay	8.4	0	0	0	1.2	0	0	0	0	0	0	32.6	27.1
Bruin Bay	0	0	12.3	0.9	2.1	0	11.7	0	0	6.2	40.3	51.9	0.3
Rocky-Ursus Coves	3.7	2.7	44.2	0	13.0	52.8	16.4	7.9	0	0	14.4	14.1	0
Iniskin and Cottonwood Bays	1.5	3.3	21.8	0	0.1	26.0	0	4.7	0	0.1	0.2	0	0.3
Miscellaneous	3.6	9.5	4.4	3.8	8.0	8.4	6.4	11.5	27.1	16.9	16.8	25.0	10.7
Total	124.7	303.4	203.6	115.6	375.5	202.4	392.9	307.4	1,063.4	1,292.2	2,986.5	3,276.2	927.5

1/ Data source IBM computer runs, 1959-83.
2/ Preliminary data.

Table 13. Pink salmon catch for Lower Cook Inlet in thousands of fish by bay during even numbered years. 1/

Catch Location	1960	1962	1964	1966	1968	1970	1972	1974	1976	1978	1980	1982	1984 2/
Humpy Creek	71.6	108.8	82.4	40.7	43.9	114.1	2.1	35.4	73.1	44.0	53.3	6.0	40.8
Tutka Bay	87.6	279.5	100.9	53.5	26.9	43.9	5.2	5.5	18.0	167.9	312.5	184.9	236.0
Seldovia Bay	42.6	142.8	37.4	44.1	23.6	28.6	0.2	3.5	3.0	35.4	81.7	70.3	0.2
Port Graham Bay	7.1	18.1	38.4	5.1	23.0	12.5	1.1	4.5	3.9	4.0	30.5	35.4	0.3
Dogfish Bay	1.8	1.4	0.1	7.1	0	9.8	0.3	0	0	0	4.7	1.7	1.4
Port Chatham	15.7	102.2	67.1	6.7	10.0	1.9	0	0	0	0	1.3	12.3	0
Windy Bay	29.2	85.5	68.6	20.1	3.4	0.8	0	0	0	0	0	0	0
Rocky Bay	17.0	225.9	53.2	0	10.8	39.8	0	0	0	0	1.4	0	0
Port Dick Bay	257.4	1,118.3	526.3	296.8	55.0	193.8	0	0.6	0	63.6	133.3	43.9	69.6
Nuka Bay	26.6	129.8	23.8	0	90.2	48.4	0.3	0.7	0.1	6.3	12.8	9.3	0.7
Resurrection Bay	5.8	0.1	0.3	0	37.4	40.2	18.2	0	35.4	29.7	155.8	137.4	118.5
Bruin Bay	2.6	0	0	0	126.2	10.2	0	0	0	0	99.4	13.3	123.3
Rocky-Ursus Coves	6.6	3.2	13.5	2.9	18.0	7.5	0	0	0	0.1	0	20.0	17.6
Iniskin and Cottonwood Bays	2.1	3.2	4.3	0	9.9	3.5	0	0	0.1	0.1	0.1	0.6	3.1
Miscellaneous	37.9	29.5	39.1	102.2	107.1	19.3	1.3	0.4	2.8	1.5	2.4	16.4	89.7
Total	611.6	2,248.3	1,055.4	579.2	585.4	574.3	28.7	50.6	136.4	352.6	889.7	551.5	698.3

1/ Data resource IBM computer runs, 1960-82.
2/ Preliminary data.

Table 14. Chum salmon catch for lower Cook Inlet in thousands of fish by bay by year. 1/

Catch Location	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Tutka	0.1	2.4	1.8	2.9	2.4	5.6	1.1	3.9	4.0	1.3	0.7
Port Graham	2.3	1.8	0.5	4.0	3.8	2.1	0.9	5.3	3.0	2.3	1.3
Dogfish	4.9	0.4	0.1	0	0.2	0	0	7.0	15.3	0.1	0
Port Chatham	1.0	2.5	0	2.8	4.3	5.2	0	17.8	0	1.0	0
Rocky-Windy	14.9	6.4	2.2	8.5	0.3	33.8	8.1	1.7	0	0.5	0
Port Dick	42.4	53.9	36.8	112.0	110.8	227.4	14.2	60.9	36.0	10.9	5.4
Nuka	1.7	8.4	1.7	0.5	1.5	0	0	0	1.5	6.9	0
Resurrection	0.1	0.5	0	0	0	0	0	0	0.1	0.7	0
Douglas River	0.2	0	0	0	0	0	0	0	0	0	0
Kamishak River	0	0	0	0	0	0	0	0	0	3.7	0
McNeil River	0	0.4	0	0	0	2.7	0.9	0	0.4	8.3	4.4
Bruin	0	0.3	0.5	0	0.1	0	0.4	0	1.0	7.5	0
Ursus-Rocky Coves	8.5	8.6	1.8	1.1	2.8	1.2	0	4.0	2.9	1.0	3.6
Cottonwood and Iniskin	12.1	35.4	10.2	41.7	10.9	38.4	0	0	19.0	25.5	44.4
Miscellaneous	23.7	0	0	5.8	1.4	6.9	2.5	28.5	2.2	5.4	1.4
Total	110.8	116.1	55.6	179.3	138.5	323.3	28.1	129.1	85.4	75.1	61.2

Catch Location	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Tutka	1.6	0.5	1.3	0.8	1.4	2.0	0.9	0.8	2.6	4.9	1.8
Port Graham	4.8	2.0	3.2	2.6	1.0	2.2	0.5	5.0	2.4	4.3	2.5
Dogfish	50.9	114.5	41.1	0.4	0	0	0	9.4	0	8.4	2.1
Port Chatham	0.1	2.4	0	0.2	0	0.6	0	0.1	0	1.7	1.3
Rocky-Windy	39.4	1.4	0	0.9	0	0.3	0	17.7	0	76.7	2.1
Port Dick	21.8	0.7	0	33.4	8.1	6.8	0	25.6	9.1	79.0	19.0
Nuka	5.9	0.1	2.3	40.8	3.9	3.6	0.4	17.4	0.4	14.7	7.8
Resurrection	0.4	0.4	0.7	0	0	0	0	0	0.1	0	0.7
Douglas River	0	0	0	0	0	0.1	7.1	4.0	2.9	0.7	10.0
Kamishak River	0	0	2.4	0	0	0	10.5	0	23.9	17.8	0
McNeil River	1.9	0	2.3	0	2.0	0	16.9	38.5	4.9	6.5	6.3
Bruin	12.8	1.6	1.8	0	0.7	0	0	0	0	4.0	10.6
Ursus-Rocky Coves	8.9	10.3	0.2	5.7	0	2.0	2.8	7.8	1.9	0.5	0.3
Cottonwood and Iniskin	71.9	14.5	19.7	29.9	0	2.8	11.5	15.3	14.9	0.2	5.4
Miscellaneous	3.6	0.2	0.5	0.8	2.1	1.2	0.2	4.2	10.4	3.6	3.6
Total	224.2	148.6	75.5	115.5	19.2	21.6	50.8	145.8	73.5	223.0	73.5

Table 14 (cont.). Chum salmon catches for Lower Cook Inlet in thousands of fish by bay by year.

Catch Location	1981	1982	1983	1984 2/
Tutka	10.8	8.3	9.8	2.0
Port Graham	11.2	7.4	1.7	0.3
Dogfish	71.8	15.6	2.8	2.6
Port Chatham	59.5	14.1	2.1	0
Rocky-Windy	7.4	0	3.2	0
Port Dick	95.8	30.3	18.0	1.0
Nuka	3.8	0.9	1.1	0.6
Resurrection	3.3	7.7	6.9	3.1
Douglas River	46.7	37.1	27.2	17.6
Kamishak River	8.6	9.2	23.9	6.0
McNeil River	11.6	32.6	67.9	11.5
Bruin	1.7	1.3	2.6	10.9
Ursus-Rocky Coves	1.5	7.2	0	3.8
Cottonwood and Iniskin	3.5	21.6	21.4	20.2
Miscellaneous	1.9	5.8	3.7	14.2
Total	339.1	198.0	192.3	93.8

1/ Data source IBM computer runs, 1959-83.
2/ Preliminary data.

Table 15. Sockeye salmon catch for Lower Cook Inlet in thousands of fish by bay by year. 1/

Catch Location	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Resurrection Bay	0	0.1	0	0	0	0	0	0	0	74.5	99.4	1.7
Aialik Bay	1.3	0.2	4.3	2.6	0.5	0	0	0	0	0	0	3.1
Nuka Bay	8.3	6.7	8.2	5.1	0.5	0	2.0	0	2.2	1.5	0	1.0
Humpy Creek	1.3	1.4	0.8	2.0	1.1	0.7	1.4	1.5	1.9	2.7	1.6	1.3
Tutka Bay	1.1	1.7	3.0	5.2	2.9	9.0	5.2	6.0	11.8	6.3	4.9	6.0
Seldovia Bay	0.4	1.2	1.2	1.7	1.2	2.1	0.9	1.0	2.2	1.9	0.8	1.2
Port Graham Bay	6.6	7.8	5.2	6.8	7.8	5.5	3.5	2.7	10.4	7.7	4.3	3.7
Kamishak Bay	1.5	0.8	0	0	0	2.0	0.8	0	0.2	0.5	10.7	2.9
Miscellaneous	1.1	4.8	1.0	1.9	1.1	1.4	2.0	4.1	3.0	0.1	11.0	1.4
Total	21.6	24.7	22.8	25.3	15.1	20.7	14.0	15.3	29.0	95.2	122.8	22.3

Catch Location	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Resurrection Bay	2.2	0.1	0	0	0	0	0	0	0	0	0.6	0
Aialik Bay	0	0.3	3.1	0.2	0.6	0	5.8	0	0	0.1	8.7	3.0
Nuka Bay	1.6	26.1	1.5	0.2	0	18.9	32.5	10.7	24.4	21.5	17.2	66.3
Humpy Creek	1.3	3.7	2.1	3.0	3.5	5.4	3.8	12.9	6.2	11.5	11.3	1.2
Tutka Bay	10.0	14.8	8.1	10.8	12.6	14.2	21.0	92.1	15.6	13.2	40.9	15.6
Seldovia Bay	1.5	2.3	2.2	2.3	2.1	2.1	3.0	5.6	2.6	1.6	5.3	5.0
Port Graham Bay	5.6	10.5	11.7	10.9	9.2	13.6	26.6	30.5	12.9	16.5	20.3	21.5
Kamishak Bay	0	0	0	0	0	4.0	7.4	4.6	1.8	3.9	5.0	18.0
Miscellaneous	0	1.0	5.0	0	1.0	0	0	0	9.0	1.1	1.0	6.5
Total	22.2	57.9	29.2	27.4	28.1	58.2	100.1	156.4	64.4	69.4	110.3	131.3

Table 15 (cont.). Sockeye salmon catches for Lower Cook Inlet in thousands of fish by bay by year.

Catch Location	1983	1984 2/
Resurrection Bay	0	3.4
Aialik Bay	25.9	50.4
Yuka Bay	16.8	28.4
Humpy Creek	77.7	104.4
Tutka Bay	35.9	9.5
Seldovia Bay	6.7	0
Port Graham Bay	13.4	0
Kamishak Bay	11.2	24.5
Miscellaneous	0	50.2
Total	187.6	270.8

1/ Data source IBM computer runs, 1959-83.
2/ Preliminary data.

Table 16. Salmon catch by species for set gillnets in the Southern District of Lower Cook Inlet, 1958-1984. 1/

Year	Kings	Reds	Cohos	Pinks	Chums	Total
1958	42	3,872	165	2,293	2,274	8,646
1959	49	6,148	377	4,342	361	11,277
1960	6	7,007	398	3,894	347	11,652
1961	15	8,631	216	8,201	425	17,488
1962	13	11,793	1,281	12,207	1,558	26,852
1963	9	8,305	314	1,490	812	10,930
1964	5	16,632	1,576	25,935	1,972	46,120
1965	9	10,998	314	7,267	679	19,267
1966	31	10,317	505	24,981	1,790	37,624
1967	112	22,097	504	13,962	1,929	38,604
1968	31	15,741	1,431	12,614	1,289	31,106
1969	33	11,570	246	10,717	1,298	23,864
1970	26	11,455	1,154	18,512	1,575	32,722
1971	41	18,398	1,449	8,564	1,352	29,804
1972	69	31,340	323	6,303	2,819	40,854
1973	134	23,970	1,089	20,222	2,374	47,789
1974	175	26,966	3,010	11,097	2,713	43,991
1975	96	26,588	2,337	49,490	4,020	82,531
1976	176	33,993	1,321	13,431	1,353	50,274
1977	175	54,404	869	38,064	2,765	96,277
1978	1,052	86,934	3,053	11,556	4,117	106,712
1979	483	34,367	7,595	69,368	5,266	117,079
1980	225	29,922	8,038	26,613	2,576	67,374
1981	222	53,665	6,735	68,794	8,524	137,940
1982	894	42,389	5,557	15,838	7,113	71,791
1983	822	41,707	1,955	20,377	4,377	69,238
1984 2/	643	45,806	2,979	20,764	5,412	75,604
27 Year Total	5,588	695,045	54,791	526,896	71,090	1,353,410
27 Year Average	207	25,742	2,029	19,515	2,633	50,126
% of Total	0.41	51.36	4.05	38.93	5.25	100.00

1/ Data source: final IBM computer runs 1958-1983.
2/ Preliminary data.

Table 17. Lower Cook Inlet salmon catch by species, 1955-1984. 1/

Year	King	Red	Coho	Pink	Chum	Total
1955	573	36,600	9,675	1,184,328	68,710	1,299,886
1956	333	36,306	9,345	207,920	88,218	342,122
1957	419	26,917	1,765	285,613	206,450	521,164
1958	120	19,450	1,796	949,766	124,482	1,095,614
1959	132	21,637	6,352	124,748	110,838	263,707
1960	27	24,726	2,692	611,647	116,082	755,174
1961	41	22,776	1,619	303,377	55,593	383,406
1962	60	25,286	7,727	2,248,341	179,259	2,460,673
1963	96	15,121	6,736	203,616	138,510	364,079
1964	91	20,654	9,460	1,055,417	323,335	1,408,957
1965	10	14,002	862	115,598	28,076	158,548
1966	62	15,333	5,411	579,240	129,062	729,108
1967	176	29,044	2,726	375,488	85,445	492,879
1968	64	95,242	4,883	585,441	75,134	760,764
1969	64	122,796	623	202,444	61,203	387,130
1970	107	22,312	4,860	574,284	224,158	825,721
1971	73	22,234	4,561	392,871	148,602	568,341
1972	88	57,897	2,234	28,663	75,543	164,425
1973	145	29,209	2,101	307,403	115,513	454,371
1974	183	27,428	6,514	50,601	19,210	103,936
1975	143	28,142	6,211	1,063,432	21,646	1,119,574
1976	450	58,159	3,216	136,445	50,822	249,092
1977	217	101,597	3,232	1,292,153	145,778	1,542,977
1978	1,747	156,404	6,529	352,561	73,518	590,759
1979	1,238	64,417	12,250	2,986,534	223,028	3,287,467
1980	424	69,442	14,505	889,703	73,492	1,047,566
1981	1,086	110,255	10,778	3,276,221	339,053	3,737,393
1982	1,066	131,320	46,892	551,522	197,987	928,787
1983	873	187,645	11,375	927,451	192,319	1,319,663
1984 2/	713	270,756	17,271	698,276	93,804	1,080,820
30 Year Total	10,821	1,863,107	224,201	22,561,104	3,784,870	28,444,103
30 Year Average	361	62,104	7,473	752,037	126,162	948,137
% of Total	0.04	6.55	0.79	79.32	13.30	100.00

1/ Data source: final IBM computer runs, 1955-1983 and processor catch reports.
2/ Preliminary data.

Table 18. Southern district salmon catch by species, 1955-1984. 1/

Year	King	Sockeye	Coho	Pink	Chum	Total
1955	562	30,848	3,230	565,216	24,398	624,254
1956	310	33,054	4,693	150,486	53,515	242,058
1957	286	19,431	1,507	130,511	57,403	209,138
1958	119	17,731	1,713	209,798	24,096	253,457
1959	71	7,720	709	50,244	13,967	72,711
1960	12	12,239	1,237	209,989	4,100	227,577
1961	39	10,104	1,149	191,867	2,916	206,075
1962	58	16,569	2,095	564,050	9,078	591,850
1963	88	13,142	4,020	99,820	7,523	124,593
1964	84	17,283	8,905	266,412	11,529	304,213
1965	10	11,185	733	90,260	2,458	104,646
1966	60	12,192	4,807	177,544	28,754	223,357
1967	173	26,349	2,379	92,793	23,416	145,110
1968	61	18,716	4,671	154,033	4,403	181,884
1969	59	12,578	485	70,753	2,600	86,475
1970	91	13,480	3,705	208,114	8,174	233,564
1971	41	18,403	3,151	50,063	2,857	74,518
1972	69	31,345	1,283	9,126	4,936	46,759
1973	139	24,145	1,241	97,574	3,588	126,687
1974	182	27,029	3,054	48,875	2,725	81,865
1975	142	27,393	3,039	893,709	5,428	929,711
1976	442	35,280	1,905	99,817	1,517	138,961
1977	182	54,663	1,239	156,696	6,723	219,503
1978	1,511	141,088	4,318	251,761	5,525	404,203
1979	1,199	37,342	10,688	982,529	12,759	1,044,517
1980	414	42,929	11,568	478,019	4,605	537,535
1981	1,024	77,880	7,976	1,451,022	23,880	1,561,782
1982	926	43,433	7,165	296,556	18,466	366,546
1983	858	133,671	3,589	690,098	14,281	842,497
1984 2/	661	163,244	3,415	336,785	9,598	513,703
30 year Total	9,873	1,130,466	109,669	9,074,523	395,218	10,719,749
30 Year Average	329	37,682	3,656	302,484	13,174	357,325
% of Total	0.09	10.55	1.02	84.65	3.69	100.00

1/ Data source: Final IBM computer runs, 1955-1983, and processor catch reports.
2/ Preliminary data.

Table 19. Outer district salmon catch by species, 1955-1984. 1/

Year	King	Sockeye	Coho	Pink	Chum	Total
1955	7	701	277	557,997	40,887	599,869
1956	23	2,889	190	42,368	19,248	64,718
1957	13	2,982	110	149,197	138,171	290,473
1958	1	1,719	83	739,768	100,386	841,957
1959	3	8,049	109	69,054	59,996	137,211
1960	4	11,614	574	381,375	67,187	460,754
1961	2	12,671	456	105,491	40,212	158,832
1962	2	8,697	1,893	1,684,023	126,767	1,821,382
1963	6	1,974	369	21,471	117,095	140,915
1964	2	1,370	431	767,473	269,514	1,038,790
1965	0	2,009	7	21,886	22,443	46,345
1966	1	3,120	357	398,751	87,620	489,849
1967	2	2,165	70	262,258	37,533	302,028
1968	1	1,550	106	191,691	20,398	213,746
1969	0	92	11	51,533	5,400	57,036
1970	5	4,177	243	302,831	118,746	426,002
1971	11	1,630	174	310,710	118,995	431,520
1972	7	26,423	17	1,005	43,490	70,942
1973	1	5,063	31	197,259	76,341	278,695
1974	1	399	28	1,678	11,931	14,037
1975	0	720	7	160,291	11,350	172,368
1976	7	18,886	0	93	412	19,398
1977	34	33,733	1,528	1,127,800	70,167	1,233,262
1978	236	10,695	45	70,080	19,224	100,280
1979	30	25,297	150	1,945,521	180,558	2,151,556
1980	10	22,514	16	154,041	32,246	208,827
1981	61	18,133	485	1,714,115	238,393	1,971,187
1982	129	66,781	92	67,456	62,877	197,335
1983	14	16,835	54	199,794	27,203	243,900
1984 2/	3	28,411	90	89,068	3,077	120,649
30 Year Total	616	341,299	8,003	11,786,078	2,167,867	14,303,863
30 Year Average	21	11,377	267	392,869	72,262	476,795
% of Total	+	2.39	0.05	82.40	15.16	100.00

1/ Data source: Final IBM computer runs, 1955-1983, and processor catch reports.
2/ Preliminary data.

Table 20. Kamishak Bay district salmon catch by species, 1955-1984. 1/

Year	King	Sockeye	Coho	Pink	Chum	Total
1955	0	2	8	5,121	278	5,409
1956	0	67	701	193	14,936	15,897
1957	0	4,335	29	5,905	10,856	21,125
1958	0	0	0	0	0	0
1959	0	1,549	43	5,325	23,574	30,491
1960	11	768	28	11,563	44,328	56,698
1961	0	1	14	6,019	12,465	18,499
1962	0	20	11	219	43,404	43,654
1963	2	4	97	82,314	13,892	96,309
1964	5	1,979	115	20,719	42,280	65,098
1965	0	808	122	3,452	3,175	7,557
1966	1	21	247	2,945	12,688	15,902
1967	1	182	74	17,340	24,221	41,818
1968	0	492	101	198,253	49,461	248,307
1969	2	10,723	121	80,157	53,193	144,196
1970	0	2,888	220	23,113	96,605	122,826
1971	0	3	121	32,094	26,327	58,545
1972	0	47	31	342	26,374	26,794
1973	0	1	28	12,568	35,584	48,181
1974	0	0	2,915	48	4,554	7,517
1975	0	29	3,041	9,432	4,868	17,370
1976	1	3,988	1,111	1,112	48,848	55,060
1977	1	7,425	105	6,308	65,659	79,498
1978	0	4,619	1,584	982	48,669	55,854
1979	9	1,778	1,116	58,484	29,711	91,098
1980	0	3,877	2,495	101,864	35,921	144,157
1981	1	4,972	1,845	66,097	73,501	146,416
1982	11	18,014	38,685	43,871	108,946	209,527
1983	1	11,207	7,138	1,405	142,901	162,652
1984 2/	2	24,642	13,230	137,133	70,595	245,602
30 Year Total	48	104,441	75,376	934,378	1,167,814	2,282,057
30 Year Average	2	3,481	2,513	31,146	38,927	76,069
% of Total	+	4.58	3.30	40.95	51.17	100.00

1/ Data source: Final IBM computer runs, 1955-1983, and processor catch reports.
2/ Preliminary data.

Table 21. Eastern district salmon catch by species, 1955-1984. 1/

Year	King	Sockeye	Coho	Pink	Chum	Total
1955	4	5,049	6,160	55,994	3,147	70,354
1956	0	296	3,761	14,873	519	19,449
1957	120	169	119	0	20	428
1958	0	0	0	200	0	200
1959	58	4,319	5,491	125	13,301	23,294
1960	0	105	853	8,720	467	10,145
1961	0	0	0	0	0	0
1962	0	0	3,728	49	10	3,787
1963	0	1	2,250	11	0	2,262
1964	0	22	9	813	12	856
1965	0	0	0	0	0	0
1966	0	0	0	0	0	0
1967	0	348	203	3,097	275	3,923
1968	2	74,484	5	41,464	872	116,827
1969	3	99,403	6	1	10	99,423
1970	11	1,767	692	40,226	633	43,329
1971	21	2,198	1,115	1	423	3,758
1972	12	82	903	18,190	743	19,930
1973	5	0	801	2	0	808
1974	0	0	517	0	0	517
1975	1	0	124	0	0	123
1976	0	5	200	35,423	45	35,673
1977	0	5,776	360	1,349	3,229	10,714
1978	0	2	582	29,738	100	30,422
1979	0	0	296	0	0	296
1980	0	122	426	155,779	720	157,047
1981	0	9,270	472	44,987	3,279	58,008
1982	0	3,092	950	143,639	7,698	155,379
1983	0	25,932	594	36,154	7,934	70,614
1984 2/	47	54,459	536	135,290	10,534	200,866
30 Year Total	284	286,901	31,153	766,125	53,971	1,138,434
30 Year Average	9	9,563	1,038	25,538	1,799	37,948
% of Total	0.02	25.20	2.74	67.30	4.74	100.00

1/ Data source: Final IBM computer runs, 1955-1983, and processor catch reports.
2/ Preliminary data.

Table 22. Summary of subsistence fishermen in Lower Cook Inlet by area of residence.

Area Residence of Permittee	Homer #	Homer %	Anchorage Area #	Anchorage Area %	Halibut Cove #	Halibut Cove %	Anch. Pt. Ninilchik #	Anch. Pt. Ninilchik %	Seldovia #	Seldovia %	Port Graham/ English Bay #	Port Graham/ English Bay %	Kenai/ Soldotna #	Kenai/ Soldotna %	Other #	Other %	Total Permits Issued
1974	108	73.0	20	13.5	6	4.1	4	2.7	1	0.7	3	2.0	5	3.4	1	0.7	148
1975	118	75.2	13	8.3	6	3.8	7	4.5	5	3.2	2	1.3	4	2.5	2	1.3	157
1976	182	70.0	24	9.2	9	3.5	25	9.6	5	1.9	4	1.5	6	2.3	5	1.9	260
1977	153	77.3	8	4.0	8	4.0	17	8.6	7	3.6	0	0	2	1.0	3	1.6	198
1978	214	68.8	40	12.9	5	1.6	30	9.6	12	3.8	3	1.0	4	1.3	3	1.0	311
1979	276	62.7	67	15.2	2	0.5	61	13.9	3	0.7	0	0	11	2.5	20	4.6	440
1980	310	58.2	81	15.2	0	0	80	15.0	7	1.3	0	0	42	7.9	13	2.4	533
1981	274	71.4	43	11.2	8	2.1	37	9.6	3	0.8	1	0.3	14	3.6	4	1.0	384
1982	295	74.7	19	4.8	9	2.3	44	11.1	0	0	0	0	7	1.8	21	5.3	395
1983	267	77.9	24	7.0	3	0.9	33	9.6	8	2.3	0	0	0	0	8	2.3	343
1984	266	72.0	20	5.4	6	1.6	62	16.8	5	1.4	1	0.3	5	1.4	4	1.1	369
11 Year Total	2,463	-	359	-	62	-	400	-	56	-	14	-	100	-	84	-	3,538
11 Year Average	224	69.6	33	10.2	6	1.9	36	11.2	5	1.5	1	0.3	9	2.8	8	2.5	322

Table 23. Subsistence fishery catches for the Southern district of Cook Inlet, 1969-1984.

Year	Issued	Returned	Permits Not Fished	Returned	King	Sockeye	Coho	Pink	Chum	Other	Total
1969	47	44	9	93.6	0	9	752	38	0	17	816
1970	78	73	18	93.6	0	12	1,179	143	13	39	1,386
1971	112	95	42	84.8	2	16	1,549	44	7	20	1,638
1972	135	105	41	77.8	1	11	975	48	69	19	1,123
1973	143	128	46	89.5	0	18	1,304	84	40	9	1,455
1974	148	118	66	80.3	0	16	376	43	77	27	539
1975	292	276	55	94.5	4	47	1,960	632	61	95	2,799
1976	242	221	83	91.3	16	46	1,962	1,513	56	75	3,668
1977	197	179	42	90.9	12	46	2,216	639	119	84	3,116
1978	311	264	113	84.9	4	35	2,482	595	34	89	3,239
1979	437	401	163	91.8	6	37	2,118	2,251	41	130	4,583
1980	533	494	195	92.7	43	32	3,491	1,021	25	153 2/	4,765
1981	384	374	100	97.4	25	64	4,314	732	89	+100	5,324
1982	395	378	71	95.7	39	46	7,303	955	123	8	8,474
1983	343	330	118	96.2	4	21	2,525	330	40	2	2,922
1984 1/	369	349	127	94.6	4	25	3,666	821	87	25	4,628
16 Year Total	4,166	3,829	1,289	1,449.6	160	481	38,172	9,889	881	892	50,475
16 Year Average	260	239	81	90.6	10	30	2,386	618	55	56	3,155

1/ Preliminary data.
2/ Steelhead.

Table 24. Port Graham subsistence salmon harvest by year and month.

Year/Month	Chinook	Sockeye	Coho	Pink	Chum	Sub-Total	Calendars	Harvest Days
1981								
May 10-31	31	543	0	0	0	574	39/47	94
June 1-15	11	986	0	7	1	1,005	36/47	61
August 16-31	0	1	173	180	40	394	38/47	45
Sept. 1-30	0	0	452	41	2	495	41/47	32
Totals	42	1,530	625	228	43	2,468	-	268
1982								
May 10-31	32	264	0	0	3	299	36/36	46
June 1-30	25	339	0	1	23	388	37/38	107
August 16-31	4	5	209	229	76	523	34/35	73
Sept. 1-30	0	14	321	121	14	470	28/34	59
Totals	61	622	530	351	116	1,680	--	348
1983 1/								
May 10-31	19	368	0	0	0	387	31	-
June 1-15	38	697	0	5	1	741	19	-
August 16-31	0	1	232	76	53	362	16	-
Sept. 1-30	0	0	208	88	11	307	13	
Totals	57	1,066	440	169	65	1,797		-
1984 1/								
May 10-31	19	971	0	1	0	991	29/32	94
June 1-15	2	1,119	0	0	1	1,122	18/32	84
August 16-31	0	5	121	214	5	345	8/34***	28
Sept. 1-30	0	0	45	0	0	45	3/34***	8
Totals	21	2,095	166	215	6	2,503		214

*Estimate
**Some harvest, no estimate.
***More sport fish effort than subsistence effort due to cohos moving directly into the stream rather than milling in the bay. Est. sport coho harvest at 300.
1/ Not comparable to 1981 and 1982 data.
Contains catches in gillnets during open subsistence periods only and does not include harvests with other types of gear or during closed subsistence fishing times.

Table 25. English Bay subsistence salmon harvest by year and month.

Year/Month	Chinook	Sockeye	Coho	Pink	Chum	Sub-Total	Calendars	Harvest Days
1981								
May 10-31	1	609	0	0	0	610	25/29	76
June 1-15	10	263	0	13	0	286	22/29	61
August 16-31	0	37	0	296	14	347	23/29	92
Sept. 1-30	0	25	214	139	0	378	20/29	61
Totals	11	934	214	448	14	1,621	-	317
1982								
May 10-31	5	280	0	6	7	298	36/36	79
June 1-15	2	641	0	0	0	643	31/31	115
August 1-31	3	315	119	674	0	1,111	25/29	127
Sept. 1-30	0	13	756	724	29	1,522	27/29	150
Totals	10	1,249	875	1,404	36	3,574	-	508
1983 1/								
May 10-31	0	807	0	0	0	807	28	-
June 1-15	0	655	0	0	0	655	17	-
August 16-31	0	210	65	363	0	638	14	-
Sept. 1-30	0	112	302	0	0	414	10	-
Totals	0	1,784	367	363	0	2,514	-	-
1984 1/								
May 10-31	16	755	0	0	0	771	17/26	100
June 1-15	2	463	0	14	0	479	10/26	45
August 16-31	0	7	170	390	0	576	9/26	49
Sept. 1-30	0	215	0	0	0	215	9/26***	
Totals	18	1,225	385	404	0	2,032		219

*Estimate.
**Some harvest, no estimate.
***More sport harvest, but no estimate.
1/ Not comparable to 1981 and 1982 data.
Contains catches in gillnets during open subsistence periods only and does not include harvests with other types of gear or during closed subsistence fishing times.

Appendix Table 1. Fishing licenses and permits issued and fished in Lower Cook Inlet, 1960-1984.

Year	Gear License	Seines Permanent Permit	Seines Interim Permit	Total	Seines Fished	Set Nets Fished
1960	95			95		
1961	89			89		
1962	91			91		
1963	112			112		
1964	108			108		
1965	72			72		
1966	77			77	75	
1967	58			58	54	
1968	91			91	88	
1969	75			75	17	
1970	89			89	9	
1971	81			81	32	
1972	83			83	52	
1973	86			86	49	
1974	110			110	49	32
1975		49	51	100	63	27
1976		63	16	79	53	25
1977		72	10	82	72	26
1978		74	9	83	72	39
1979		75	9	84	75	38
1980		75	9	84	83	40
1981		75	10	85	85	40
1982		77	7	84	69	39
1983		78	5	83	83	24
1984 1/		78	3	81	39	35
Total	1,317	716	129	2,162	1,119	365
Average	88	72	13	86	59	33

*Data source: CFEC microfiche printouts and final IBM computer runs.
1/ Preliminary data.

Appendix Table 2. Ex-vessel value of Lower Cook Inlet commercial salmon harvest in thousands of dollars by species, 1960-1984.

Year	King	Sockeye	Coho	Pink	Chum	Total
1960	0	36	3	287	127	453
1961	0	33	2	144	36	215
1962	0	37	8	1,056	108	1,209
1963	1	22	7	87	84	201
1964	0	30	9	369	194	602
1965	0	21	1	34	20	76
1966	0	23	5	237	82	347
1967	1	45	3	157	58	264
1968	0	152	5	311	57	525
1969	0	219	1	137	46	403
1970	1	35	6	273	215	530
1971	1	38	7	248	144	438
1972	1	130	6	22	146	305
1973	3	113	5	310	251	682
1974	5	283	30	100	77	495
1975	3	106	27	1,456	71	1,663
1976	7	287	13	207	217	731
1977	7	620	9	1,719	604	2,959
1978	62	1,516	52	370	341	2,341
1979	36	621	68	4,495	1,097	6,317
1980	12	336	64	1,082	298	1,792
1981	18	706	60	5,334	1,291	7,409
1982	28	780	367	318	820	2,313
1983	10	685	53	584	478	1,810
1984 2/	23	1,393	120	562	216	2,314
25 Year Total	219	8,267	931	19,899	7,078	36,394
25 Year Average	9	331	37	796	283	1,456

1/ Values obtained by using the formula: average price per lb. x average weight of fish x catch = Ex-vessel value.

2/ Preliminary data.

Appendix Table 3. Average salmon price per pound by species in dollars, Lower Cook Inlet, 1960-1984. 1/

Year	King	Sockeye	Coho	Pink	Chum
1960	0.25 2/	0.27	0.18	0.15	0.16
1961	0.24 2/	0.24	0.15	0.11	0.08
1962	0.23 2/	0.27	0.16	0.15	0.07
1963	0.25 2/	0.27	0.15	0.13	0.08
1964	0.24 2/	0.27	0.15	0.10	0.07
1965	0.22 2/	0.24	0.11	0.08	0.08
1966	0.22 2/	0.24	0.14	0.11	0.08
1967	0.26	0.26	0.15	0.11	0.08
1968	0	0.25	0.17	0.18	0.09
1969	0	0.27	0.23	0.17	0.13
1970	0.35	0.27	0.18	0.12	0.13
1971	0.53	0.28	0.24	0.18	0.15
1972	0.45	0.36	0.44	0.20	0.28
1973	0.93	0.48	0.39	0.27	0.29
1974	0.76	1.54	0.72	0.48	0.56
1975	0.61	0.61	0.49	0.37	0.43
1976	0.91	0.77	0.59	0.37	0.48
1977	1.07	0.86	0.55	0.35	0.45
1978	1.09	1.31	0.97	0.30	0.54
1979	1.54	1.53	0.89	0.43	0.60
1980	1.30	0.88	0.85	0.38	0.52
1981	1.35	1.05	0.65	0.44	0.47
1982	1.29	0.99	0.87	0.18	0.46
1983	0.50	0.73	0.65	0.21	0.27
1984	1.29	1.05	0.77	0.23	0.25

1/ 1960-1974 values obtained (except as noted) by using the formula: Avg. price/lb. x avg. weight/fish x catch = ex-vessel value. Ex-vessel values obtained from tables 34 & 39 in Lower Cook Inlet status report. Avg. weight/fish from commercial fish catch & production statistical leaflet for Cook Inlet. Values do not reflect any retroactive price increases paid after the fishing seasons.

2/ Values obtained by using formula:

$$\text{Avg. price/lb.} = \frac{\text{Avg. price/fish}}{\text{Avg. weight/fish}}$$

Avg. weight/fish from statistical leaflet. Avg. price/fish from annual management reports.

3/ Preliminary data.

Appendix Table 4. Salmon average weight per fish in pounds for Lower Cook Inlet, 1960-1984. 1/

Year	King	Sockeye	Coho	Pink	Chum
1960	20.2	5.4	6.2	3.2	6.8
1961	20.5	6.0	8.2	4.5	7.8
1962	21.5	5.4	6.4	3.2	8.0
1963	19.7	5.4	7.1	3.4	7.2
1964	20.8	5.4	6.3	3.5	8.4
1965	22.2	6.2	10.1	3.6	8.7
1966	23.1	5.9	6.4	3.6	7.5
1967	21.9	6.0	7.2	3.9	8.1
1968	26.2	6.3	5.9	3.0	8.3
1969	18.2	6.7	7.0	3.9	7.3
1970	26.6	5.8	6.8	3.9	7.1
1971	25.9	6.0	6.3	3.5	6.6
1972	25.0	6.2	6.1	3.9	6.9
1973	22.3	8.1	6.1	3.7	7.4
1974	36.1	6.7	6.4	4.1	7.2
1975	33.2	6.2	8.8	3.7	7.6
1976	16.1	6.4	7.0	4.1	8.9
1977	30.1	7.2	5.9	3.8	9.2
1978	32.3	7.4	8.2	3.5	8.6
1979	18.9	6.3	6.2	3.5	8.2
1980	21.7	5.5	5.2	3.2	7.8
1981	12.5	6.1	8.5	3.7	8.1
1982	20.6	6.0	9.0	3.2	9.0
1983	22.8	5.0	7.2	3.0	9.2
1984 2/	25.0	4.9	9.0	3.5	9.2
25 Year Total	558.4	152.5	177.5	90.1	199.1
25 Year Average	22.3	6.1	7.1	3.6	8.0

1/ 1960-1974 values obtained from commercial fish catch & production statistical leaflets. Remaining years from IBM computer runs.
2/ Preliminary data.

Appendix Table 5. Salmon case pack by species, Cook Inlet, 1960 -1984. 1/

Year	King	Sockeye	Coho	Pink	Chum	Total
			48 1-lb. Cans per Case			
1960	9,279	65,478	24,091	87,575	62,709	249,132
1961	12,942	88,687	10,673	30,401	39,092	181,795
1962	8,721	89,231	28,611	208,392	107,724	442,679
1963	8,138	74,185	20,898	13,509	46,209	162,939
1964	921	75,944	40,137	188,373	135,466	440,841
1965	1,221	109,663	11,999	5,911	27,187	155,981
1966	1,472	142,987	22,985	102,796	49,680	319,920
1967	1,909	118,853	15,355	21,492	38,654	196,263
1968	447	58,365	29,290	104,382	122,164	314,648
1969	1,277	43,408	6,985	86,038	26,580	164,288
1970	412	78,453	19,010	80,572	73,633	252,080
1971	1,036	68,357	8,847	91,880	52,223	222,343
1972	396	101,105	10,109	25,195	56,527	193,332
1973	712	53,954	7,049	47,829	87,214	196,758
1974	1,193	52,990	13,482	44,610	85,288	197,563
1975	169	60,359	6,298	55,454	40,491	162,771
1976	872	127,434	11,238	103,260	51,171	293,975
1977	780	232,956	9,558	104,088	92,284	439,666
1978	1,070	156,803	8,525	155,460	56,339	378,197
1979	457	104,022	2,836	249,422	26,190	382,477
1980	4,860	144,742	6,367	231,897	27,967	415,833
1981	215	40,959	4,271	291,968	45,758	383,171
1982	82	28,919	33,216	208,583	14,365	285,165
1983 2/	25	119,083	7,476	196,470	22,437	345,491
1984 2/	20	23,245	2,913	302,584	12,819	341,581
Total	58,626	2,260,182	361,769	3,038,141	1,400,171	7,118,889
Average	2,345	90,407	14,471	121,526	56,007	284,756

1/ Includes Cook Inlet salmon and salmon imported from other areas and processed in Cook Inlet.
2/ Preliminary data.

Appendix Table 6. Commercial production of fresh, frozen and cured salmon by species, Cook Inlet, 1971-1984. 1/

Year	Production in Pounds					
	King	Sockeye	Coho	Pink	Chum	Total
1971	1,122,833	858,298	230,995	29,943	2,147,814	4,388,983
1972	697,871	661,537	126,717	647,952	1,904,750	4,038,827
1973	434,283	2,251,760	478,334	326,169	5,032,885	8,523,431
1974	474,170	1,239,399	964,636	1,164,061	4,902,531	8,744,797
1975	274,563	1,490,354	851,260	581,883	5,923,465	9,121,525
1976	511,231	5,428,655	684,206	2,274,473	4,243,440	13,142,005
1977	842,240	8,265,220	754,610	580,070	5,439,190	15,881,330
1978	1,463,785	20,243,930	1,475,932	5,533,116	7,533,722	36,250,485
1979	426,710	9,479,792	1,578,032	2,375,713	4,076,813	17,937,060
1980	729,612	13,523,357	1,780,131	4,272,809	3,947,040	24,252,949
1981	711,934	18,813,717	3,663,104	3,285,847	8,268,107	34,742,709
1982	1,743,455	32,475,335	5,990,705	4,837,524	14,648,214	59,695,233
1983 2/	1,136,123	33,028,028	2,589,079	494,258	8,765,092	46,012,580
1984 2/	325,253	9,429,938	1,683,143	2,080,122	4,411,208	17,929,664
Total	10,894,063	157,189,320	22,850,884	28,483,040	81,244,271	300,661,578
Average	778,147	11,227,809	1,632,206	2,034,503	5,803,162	21,475,827

1/ Includes Cook Inlet salmon and salmon imported from other areas and processed in Cook Inlet.

2/ Preliminary data.

Appendix Table 7. Summary of return per spawner and forecast variations which have occurred in the pink salmon runs to the Southern and Outer districts of Cook Inlet, 1964-1982.

Brood Year	Escapement	Return	Return/ Spawner	Forecast	Variation from Forecast
1964	269.9	828	3.07	1,300	- 36.3
1965	142.3	478	3.36	500	- 4.4
1966	252.0	542	2.15	462	+ 17.3
1967	122.5	238	1.94	500	- 52.4
1968	196.3	699	3.56	2,000	- 65.0
1969	115.2	615	5.34	640	- 3.9
1972	43.9	91	2.07	340	- 73.5
1973	111.3	1,298	11.66	620	+ 109.4
1974	40.2	197	4.90	780	- 74.9
1975	240.8	1,652	6.86	845	+ 102.0
1976	86.6	488	3.90 2/	635	- 24.0
1977	361.3	3,507	8.67 2/	1,647 3/	+ 112.9
1978	147.3	899	3.96 2/	1,295 3/	- 30.6
1979	574.7	3,706	4.68 2/	2,992 3/	+ 23.9
1980	266.3	532	1.13 2/	1,053 3/	- 49.6
1981	409.2	1,106	1.13 2/	2,724 3/	- 59.4
1982 1/	168.3	595	1.78 2/	1,096	- 45.7
Total	3,548.1	17,471	71.18	19,429	
Average	208.7	1,028	4.18	1,143	- 9.07

1/ Preliminary data.
2/ Calculated by subtracting hatchery return from total return:
150,000 in 1978
370,000 in 1979
315,000 in 1980
1,019,000 in 1981
232,000 in 1982
645,000 in 1983
285,000 in 1984
3/ Includes projected hatchery return.

Appendix Table 8. Lower Cook Inlet total salmon catch by district, 1955-1984. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1955	624,254	599,869	5,409	70,354	1 ,299,886
1956	242,058	64,718	15,897	19,449	342,122
1957	209,138	290,473	21,125	428	521,164
1958	253,457	841,957	0	200	1,095,614
1959	72,711	137,211	30,491	23,294	263,707
1960	227,577	460,754	56,698	10,145	755,174
1961	206,075	158,832	18,499	0	383,406
1962	591,850	1,821,382	43,654	3,787	2,460,673
1963	124,593	140,915	96,309	2,262	364,079
1964	304,213	1,038,790	65,098	856	1,408,957
1965	104,646	46,345	7,557	0	158,548
1966	223,357	489,849	15,902	0	729,108
1967	145,110	302,028	41,818	3,923	492,879
1968	181,884	213,746	248,307	116,827	760,764
1969	86,475	57,036	144,166	99,423	387,130
1970	233,564	426,002	122,826	43,329	825,721
1971	74,518	431,520	58,545	3,758	568,341
1972	46,759	70,942	26,794	19,930	164,425
1973	126,687	278,695	48,181	808	454,371
1974	81,865	14,037	7,517	517	103,936
1975	929,711	172,368	17,370	125	1,119,574
1976	138,961	19,398	55,060	35,673	249,092
1977	219,503	1,233,262	79,498	10,714	1,542,977
1978	404,203	100,280	55,854	30,422	590,759
1979	1,044,517	2,151,556	91,098	296	3,287,467
1980	537,535	208,827	144,157	157,047	1,047,566
1981	1,561,782	1,971,187	146,416	58,008	3,737,393
1982	366,546	197,335	209,527	155,379	928,787
1983	842,497	243,900	162,652	70,614	1,319,663
1984 2/	513,703	120,649	245,602	200,866	1,080,820
30 Year Total	10,719,749	14,303,863	2,282,057	1,138,434	28,444,103
30 Year Average	357,325	476,795	76,069	37,948	948,137
% of Total	37.69	50.29	8.02	4.00	100.00

1/ Data source: Final IBM computer runs, 1955-1983 and processor catch reports.
2/ Preliminary data.

Appendix Table 9. King salmon catch by district for Lower Cook Inlet, 1955-1984. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1955	562	7	0	4	573
1956	310	23	0	0	333
1957	286	13	0	120	419
1958	119	1	0	0	120
1959	71	3	0	58	132
1960	12	4	11	0	27
1961	39	2	0	0	41
1962	58	2	0	0	60
1963	88	6	2	0	96
1964	84	2	5	0	91
1965	10	0	0	0	10
1966	60	1	1	0	62
1967	173	2	1	0	176
1968	61	1	0	2	64
1969	59	0	2	3	64
1970	91	5	0	11	107
1971	41	11	0	21	73
1972	69	7	0	12	88
1973	139	1	0	5	145
1974	182	1	0	0	183
1975	142	0	0	1	143
1976	442	7	1	0	450
1977	182	34	1	0	217
1978	1,511	236	0	0	1,747
1979	1,199	30	9	0	1,238
1980	414	10	0	0	424
1981	1,024	61	1	0	1,086
1982	926	129	11	0	1,066
1983	858	14	1	0	873
1984 2/	661	3	2	47	713
30 Year Total	9,873	616	48	284	11,821
30 Year Average	329	21	2	9	361
% of Total	91.24	5.69	0.44	2.63	100.00

1/ Data source: Final IBM computer runs, 1955-1983 and processor catch reports.
2/ Preliminary data.

Appendix Table 10. Sockeye salmon catch by district for Lower Cook Inlet, 1955-1984. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1955	30,848	701	2	5,049	36,600
1956	33,054	2,889	67	296	36,306
1957	19,431	2,982	4,335	169	26,917
1958	17,731	1,719	0	0	19,450
1959	7,720	8,049	1,549	4,319	21,637
1960	12,239	11,614	768	105	24,726
1961	10,104	12,671	1	0	22,776
1962	16,569	8,697	20	0	25,286
1963	13,142	1,974	4	1	15,121
1964	17,283	1,370	1,979	22	20,654
1965	11,185	2,009	808	0	14,002
1966	12,192	3,120	21	0	15,333
1967	26,349	2,165	182	348	29,044
1968	18,716	1,550	492	74,484	95,242
1969	12,578	92	10,723	99,403	122,796
1970	13,480	4,177	2,888	1,767	22,312
1971	18,403	1,630	3	2,198	22,234
1972	31,345	26,423	47	82	57,897
1973	24,145	5,063	1	0	29,209
1974	27,029	399	0	0	27,428
1975	27,393	720	29	0	28,142
1976	35,280	18,886	3,988	5	58,159
1977	54,663	33,733	7,425	5,776	101,597
1978	141,088	10,695	4,619	2	156,404
1979	37,342	25,297	1,778	0	64,417
1980	42,929	22,514	3,877	122	69,442
1981	77,880	18,133	4,972	9,270	110,255
1982	43,433	66,781	18,014	3,092	131,320
1983	133,671	16,835	11,207	25,932	187,645
1984 2/	163,244	28,411	24,642	54,459	270,756
30 Year Total	1,130,466	341,299	104,441	286,901	1,863,107
30 Year Average	37,682	11,377	3,481	9,563	62,104
% of Total	60.68	18.32	5.60	15.40	100.00

1/ Data source: Final IBM computer runs,1955-1983 and processor catch reports.
2/ Preliminary data.

Appendix Table 11. Coho salmon catch by district for Lower Cook Inlet, 1955-1984. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1955	3,230	277	8	6,160	9,675
1956	4,693	190	701	3,761	9,345
1957	1,507	110	29	119	1,765
1958	1,713	83	0	0	1,796
1959	709	109	43	5,491	6,352
1960	1,237	574	28	853	2,692
1961	1,149	456	14	0	1,619
1962	2,095	1,893	11	3,728	7,727
1963	4,020	369	97	2,250	6,736
1964	8,905	431	115	9	9,460
1965	733	7	122	0	862
1966	4,807	357	247	0	5,411
1967	2,379	70	74	203	2,726
1968	4,671	106	101	5	4,883
1969	485	11	121	6	623
1970	3,705	243	220	692	4,860
1971	3,151	174	121	1,115	4,561
1972	1,283	17	31	903	2,234
1973	1,241	31	28	801	2,101
1974	3,054	28	2,915	517	6,514
1975	3,039	7	3,041	124	6,211
1976	1,905	0	1,111	200	3,216
1977	1,239	1,528	105	360	3,232
1978	4,318	45	1,584	582	6,529
1979	10,688	150	1,116	296	12,250
1980	11,568	16	2,495	426	14,505
1981	7,976	485	1,845	472	10,778
1982	7,165	92	38,685	950	46,892
1983	3,589	54	7,138	594	11,375
1984 2/	3,415	90	13,230	536	17,271
30 Year Total	109,669	8,003	75,376	31,153	224,201
30 Year Average	3,656	267	2,513	1,038	7,473
% of Total	48.92	3.57	33.62	13.89	100.00

1/ Data source: Final IBM computer runs,1955-1983 and processor catch reports.
2/ Preliminary data.

Appendix Table 12. Pink salmon catch by district for Lower Cook Inlet, 1955-1984. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1955	565,216	557,997	5,121	55,994	1,184,328
1956	150,486	42,368	193	14,873	207,920
1957	130,511	149,197	5,905	0	285,613
1958	209,798	739,768	0	200	949,766
1959	50,244	69,054	5,325	125	124,748
1960	209,989	381,375	11,563	8,720	611,647
1961	191,867	105,491	6,019	0	303,377
1962	564,050	1,684,023	219	49	2,248,341
1963	99,820	21,471	82,314	11	203,616
1964	266,412	767,743	20,719	813	1,055,417
1965	90,260	21,886	3,452	0	115,598
1966	177,544	398,751	2,945	0	579,240
1967	92,793	262,258	17,340	3,097	375,488
1968	154,033	191,691	198,253	41,464	585,441
1969	70,753	51,533	80,157	1	202,444
1970	208,114	302,831	23,113	40,226	574,284
1971	50,066	310,710	32,094	1	392,871
1972	9,126	1,005	342	18,190	28,663
1973	97,574	197,259	12,568	2	307,403
1974	48,875	1,678	48	0	50,601
1975	893,709	160,291	9,432	0	1,063,432
1976	99,817	93	1,112	35,423	136,445
1977	156,696	1,127,800	6,308	1,349	1,292,153
1978	251,761	70,080	982	29,738	352,561
1979	982,529	1,945,521	58,484	0	2,986,534
1980	478,019	154,041	101,864	155,779	889,703
1981	1,451,022	1,714,115	66,097	44,987	3,276,221
1982	296,556	67,456	43,871	143,639	551,522
1983	690,098	199,794	1,405	36,154	927,451
1984 2/	336,785	89,068	137,133	135,290	698,276
30 Year Total	9,074,523	11,786,078	934,378	766,125	22,561,104
30 Year Average	302,484	392,869	31,146	25,538	752,037
% of Total	40.22	52.24	4.14	3.40	100.00

1/ Data source: Final IBM computer runs, 1955-1983 and processor catch reports.
2/ Preliminary data.

Appendix Table 13. Chum salmon catch by district for Lower Cook Inlet, 1955-1984. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1955	24,938	40,887	278	3,147	68,710
1956	53,515	19,248	14,936	519	88,218
1957	57,403	138,171	10,856	20	206,450
1958	24,096	100,386	0	0	124,482
1959	13,976	59,996	23,574	13,301	110,838
1960	4,100	67,187	44,328	467	116,082
1961	2,916	40,212	12,465	0	55,593
1962	9,078	126,767	43,404	10	179,259
1963	7,523	117,095	13,892	0	138,510
1964	11,529	269,514	42,280	12	323,335
1965	2,458	22,443	3,175	0	28,076
1966	28,754	87,620	12,688	0	129,062
1967	23,416	37,533	24,221	275	85,445
1968	4,403	20,398	49,461	872	75,134
1969	2,600	5,400	53,193	10	61,203
1970	8,174	118,746	96,605	633	224,158
1971	2,857	118,995	26,237	423	148,602
1972	4,936	43,490	26,374	743	75,543
1973	3,588	76,341	35,584	0	115,513
1974	2,275	11,931	4,554	0	19,210
1975	5,428	11,350	4,868	0	21,646
1976	1,517	412	48,848	45	50,822
1977	6,723	70,167	65,659	3,229	145,778
1978	5,525	19,224	48,669	100	73,518
1979	12,759	180,558	29,711	0	223,028
1980	4,605	32,246	35,921	720	73,492
1981	23,880	238,393	73,501	3,279	339,053
1982	18,446	62,877	108,946	7,698	197,987
1983	14,281	27,203	142,901	7,934	192,319
1984 2/	9,598	3,077	70,595	10,534	93,804
30 Year Total	395,218	2,167,867	1,167,814	53,971	3,784,870
30 Year Average	13,174	72,262	38,927	1,799	126,162
% of Total	10.44	57.28	30.85	1.43	100.00

1/ Data source: Final IBM computer runs, 1955-1983 and processor catch reports.
2/ Preliminary data.

Appendix Table 14. Pink salmon catch in thousands of fish for fishing districts in Lower Cook Inlet, 1936- 1984. 1/

Year	Catch	Year	Catch	Year	Catch
1936	526	1956	208	1976	136
1937	457	1957	286	1977	1,292
1938	345	1958	950	1978	353
1939	292	1959	124	1979	2,987
1940	1,659	1960	612	1980	890
1941	692	1961	303	1981	3,276
1942	695	1962	2,248	1982	552
1943	1,361	1963	204	1983	927
1944	1,446	1964	1,055	1984 2/	698
1945	1,302	1965	116		
1946	870	1966	579		
1947	1,396	1967	375		
1948	591	1968	585		
1949	366	1969	202		
1950	311	1970	574		
1951	378	1971	393		
1952	972	1972	29		
1953	513	1973	307		
1954	271	1974	51		
1955	1,184	1975	1,063		

	Total	Average
49 Year	36,075	736
Odd-Year (24)	19,796	825
Even-Year (25)	17,206	688

1/ Data source: 1953-63 data very sketchy - U.S.F.& W.S. Statistical Digest #50 and INPFC Document #1134, Rich & Ball; ADF&G computer runs, 1960-1983.
2/ Preliminary data.

Appendix Table 15. Pink salmon alevin density by brood year for non-index salmon streams in Lower Cook Inlet.

Year	Mayor	Bear	Salmon	Clear	Tonsina	Humpy	Thumb	Spring
1966								
1975								
1976	19.9	293.7	51.1	Ø				
1977								
1978	39.Ø	871.6 1/		3.2	89.6			
1980	161.7	538.4	238.3		188.6			
1981					130.9	10.8	10.8	379.3
1982	13.9	732.7	61.Ø	7.7		1.5	174.Ø	77.8
1983		25.7			176.2	585.7	752.1	155.1
Total	234.5	2,462.1	350.4	10.9	585.3	598.Ø	936.9	612.2
Ave.	58.6	492.4	116.8	5.5	146.3	199.3	312.3	204.1

Year	Barabara	South Nuka	Mikes Bay	James Lagoon	Dogfish Lagoon	Port Chatham	Ave.
1966		23.7				51.Ø	37.4
1975	500.3	318.5					409.4
1976							121.6
1977		741.2					741.2
1978							250.9
1980							281.8
1981							133.Ø
1982					6.8		134.4
1983			975.2	278.3	7.3		369.5
Total	500.3	1,083.4	975.2	278.3	14.1	51.Ø	1,738.Ø
Ave.	500.3	361.1	975.2	278.3	7.1	51.Ø	217.3

1/ Stream only partially sampled due to ice cover.

Appendix Table 16. Chum salmon alevin density by brood year for streams in Lower Cook Inlet.

Year	Dogfish Lagoon	Tutka	Port Graham	Seldovia	Windy Right	Port Dick	Island Creek	Rocky	James Lagoon	Tonsina	Spring	Ave.
1964			39.4		57.7	250.7	75.3	39.8				92.6
1965			0.4	0.4	54.7	137.4	110.5	-				60.7
1966		13.6	0	0	18.5	115.5	188.8	7.3				49.1
1967		0	2.4	0	14.8	25.3	374.8	-				69.6
1968		0	27.0	0	83.0	19.7	120.8	-				41.8
1969		0	22.8	0	33.6	76.0	526.8	-				109.9
1970		0	0	0	160.9	0	244.6	-				67.6
1971		0	0	0	8.1	6.5	-	-				2.9
1972		0	54.9	5.1	-	3.5	170.4	9.0				40.5
1973		0	13.6	0	0	12.0	131.4	30.5				26.8
1974		0	0.2	0	-	32.1	-	0.2				6.5
1975		0	3.6	0	89.0	22.5	243.1	209.7				81.1
1976		0	23.8	0	0	14.0	-	37.9				12.6
1977		6.9	49.8	0	0.5	51.6	369.7	45.6				74.9
1978	426.1	150.6	131.5	26.9	0	136.7	258.8	2.2		183.2		146.2
1979		0	35.5	0	0	5.6	311.2	71.1		-		60.5
1980		0	121.3	0	2.8	0.9	295.3	-		19.7		62.9
1981		0	19.9	0	7.7	1.3	271.7	0		9.7	6.7	39.6
1982	95.1	6.7	55.0	0	0	0.8	253.0				82.1	101.6
Total	521.2	177.8	601.1	32.4	531.3	912.1	3,946.2	453.3	0	212.6	88.8	1,147.4
Ave.	260.6	10.5	31.6	1.8	31.3	48.0	246.6	30.2	0	53.2	44.4	60.4